

Facility: <b>PRAIRIE ISLAND</b>	Scenario No.: <b>1</b>	Op-Test No.: <b>PI-ILT-NRC-2001S</b>	
Examiners: <b>Gary Calloway Joe DeMarshall Dave Lanyi</b>	Operators: <b>Shift Supervisor (SS) Balance of Plant (LRO) At the Controls (RO)</b>		
<i>Initial Conditions:</i>			
Reactor Power: <b>1x10<sup>-8</sup> AMPS</b>	Equipment OOS: <b>NONE</b>		
Boron Concentration: <b>1575 PPM</b>	Other: <b>B/U PRZR heaters are ON</b>		
RCS temperature: <b>549°F</b>	<b>Two 40 GPM orifices are in service</b>		
RCS pressure: <b>2235 PSIG</b>			
Xenon: <b>Free prior to S/U</b>			
Rods: <b>CBD @ 142 STEPS</b>			
Main Generator: <b>0 MW</b>			
<i>Turnover:</i>			
<b>Secure the 11 TD AFW Pump</b>			
<b>Raise reactor power to the point of adding heat (POAH)</b>			
Event No.	Malf. No.	Event Type*	Event Description
1		N (BOP)	SECURE 11 TD AUXILIARY FEEDWATER PUMP
2		R (ATC) N (SRO)	RAISE POWER TO THE POAH
3		C (ATC)	12 CHARGING PUMP TRIP
4		C (BOP) TS (SRO)	11 TD AFWP ACCUMULATOR LOW AIR PRESSURE
5		TS (SRO)	11 CTMT VACUUM BREAKER FAILS CLOSED
6		M (ALL)	FAULTED 12 SG TO CONTAINMENT
7		C (ATC, SRO)	12 MD AFW PUMP FAILS TO AUTO START
8		C (BOP, SRO)	SI TO FEEDWATER/CONDENSATE RELAY FAILURE
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			

Facility: <b>PRAIRIE ISLAND</b>	Scenario No.: <b>2</b>	Op-Test No.: <b>PI-ILT-NRC-2002S</b>
Examiners: <b>Gary Calloway</b> <b>Joe DeMarshall</b> <b>Dave Lanyi</b>	Operators: <b>Shift Supervisor (SS)</b> <b>Balance of Plant (LRO)</b> <b>At the Controls (RO)</b>	
<i>Initial Conditions:</i>		
Reactor Power: <b>100%</b>	Equipment OOS: <b>11 TD AFW Pump</b>	
Boron Concentration: <b>102 PPM</b>	Other:	
RCS temperature: <b>560°F</b>		
RCS pressure: <b>2235 PSIG</b>		
Xenon: <b>Equilibrium</b>		
Rods: <b>CBD @ 218 STEPS</b>		
Main Generator: <b>582 MW</b>		
<i>Turnover:</i>		
<b>Swap running EH Oil Pumps</b>		

Event No.	Malf. No.	Event Type*	Event Description
1		N (BOP)	SWAP RUNNING EH OIL PUMPS
2		I (ATC) TS (SRO)	CONTROLLING PRZR PRESS CH FAILS LOW
3		TS (SRO)	D1 LOCAL ALARM
4		C (BOP)	TURBINE EH VALVE MALFUNCTION
5		R (ATC) N (SRO)	RAPID DOWNPOWER TO 50%
6		M (ALL)	LOSS OF ALL AC
7		C (BOP)	TURBINE FAILS TO AUTO TRIP
8		C (BOP, SRO)	D2 FAILS TO AUTO START
9		C (ATC, SRO)	12 MD AFW PUMP FAILS TO AUTO START

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

Facility: <b>PRAIRIE ISLAND</b>	Scenario No.: <b>3</b>	Op-Test No.: <b>PI-ILT-NRC-2003S</b>
Examiners: <b>Gary Calloway</b> <b>Joe DeMarshall</b> <b>Dave Lanyi</b>	Operators: <b>Shift Supervisor (SS)</b> <b>Balance of Plant (LRO)</b> <b>At the Controls (RO)</b>	
<i>Initial Conditions:</i>		
Reactor Power: <b>60%</b>	Equipment OOS: <b>11 SI Pump</b>	
Boron Concentration: <b>230 PPM</b>	Other:	
RCS temperature: <b>554°F</b>		
RCS pressure: <b>2235 PSIG</b>		
Xenon: <b>Equilibrium</b>		
Rods: <b>CBD @ 178 STEPS</b>		
Main Generator: <b>338 MW</b>		
<i>Turnover:</i>		
<b>Swap running RMU pumps</b>		

Event No.	Malf. No.	Event Type*	Event Description
1		N (BOP)	SWAP RMU PUMPS
2		I (ATC) TS (SRO)	1ST STAGE PRESSURE INSTRUMENT FAILS LOW
3		R (ATC) N (SRO)	RESTORE TAVG TO TREF
4		I (ATC, BOP) TS (SRO)	PRZR LEVEL INTERLOCK CHANNEL FAILS LOW
5		M (ALL)	11 STEAM GENERATOR TUBE RUPTURE
6		C (BOP, SRO)	11 & 12 RHR PUMPS FAIL TO START AUTOMATICALLY
7		C (BOP, SRO)	SI TO COOLING WATER RELAY SIGNAL FAILURE

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

	<h2 style="margin: 0;">SIMULATOR EXERCISE GUIDE (SEG)</h2>
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**SITE: PRAIRIE ISLAND**

**SEG # PI-ILT-NRC-2001S**

**SEG TITLE: 2020 ILT NRC SIMULATOR EVALUATION #1**

**REV. # 0**

**PROGRAM: LICENSE REQUALIFICATION TRAINING #: FL-ILT**

**COURSE: INITIAL LICENSE OPERATOR TRAINING #: FL-ILT**

**TOTAL TIME: 1.5 HOURS**

<b>Developed by:</b>	<b>Fredrick Collins</b> <i>Instructor</i>	<i>Date</i>
<b>Reviewed by:</b>	<b>Justin Hasner</b> <i>Instructor</i> <i>(Simulator Scenario Development Checklist.)</i>	<i>Date</i>
<b>Validated by:</b>	<b>Fredrick Collins</b> <i>Validation Lead Instructor</i> <i>(Simulator Scenario Validation Checklist.)</i>	<i>Date</i>
<b>Approved by:</b>	 <i>Training Supervision</i>	<i>Date</i>

## Guide Requirements

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### Evaluation Objectives:

Evaluate the crews ability to:

1. Secure 11 TDAFW Pump IAW 1C28.1.
2. Raise Reactor Power to the POAH IAW 1C1.2-M2.

Evaluate the crew's ability to diagnose and respond to:

3. 12 Charging Pump Trip IAW C47015.
  4. 11 TDAFW Pump Accumulator Low Air Pressure IAW C47010.
  5. 11 CTMT Vacuum Breaker failing closed IAW C47021.
  6. 12 Steam Generator Faulted to Containment IAW 1E-2.
  7. 12 MDAFW Pump Fails to Auto Start on SI IAW 1E-0.
  8. SI to Feedwater/Condensate Relay Failure IAW 1E-0 Att. L.
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### Training Resources:

1. Full Scope Simulator
  2. Operations Management Representative
  3. Evaluation Team
  4. Booth Operator (Backup Communicator)
  5. Primary Communicator
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### Related PRA Information:

#### Initiating Event with Core Damage Frequency:

NONE

#### Important Components:

12 MDAFW PMP

11 TDAFW PMP

#### Important Operator Actions with Task Number:

CRO 301 003 06 01 000 – Faulted Steam Generator Isolation

## QUANTITATIVE ATTRIBUTES

### **Malfunctions:**

*Before EOP Entry:*

1. Secure 11 TDAFW Pump
2. Raise Reactor Power to the POAH
3. 12 Charging Pump Trip
4. 11 TDAFW Pump Accumulator Low Air Pressure
5. 11 CTMT Vacuum Breaker Fails Closed

*After EOP Entry:*

1. SI to Feedwater/Condensate Relay Failure
2. 12 MDAFW Pump Fails to Auto Start

### **Abnormal Events:**

1. 12 Charging pump trip
2. 11 TDAFW Pump Accumulator Low Air Pressure
3. CTMT vacuum breaker failure

### **Major Transients:**

1. 12 Steam Generator Faulted to Containment

### **Critical Tasks:**

- PI-CT-10B: Establish feed water flow to the INTACT Steam Generator to prevent the INTACT Steam Generator from reaching DRYOUT conditions.
- PI-CT-19: Stop feed flow to the faulted Steam Generator within 45 minutes of this critical task's plant conditions being met.

**PI-ILT-NRC-2001S, 2020 ILT NRC SIMULATOR EVALUATION #1, REV. 0****CRITICAL TASK SHEET**

Number:	PI-CT-10B
Critical Task:	Establish feed water flow to the INTACT Steam Generator to prevent the INTACT Steam Generator from reaching DRYOUT conditions.
Safety Significance:	With insufficient feed water flow, the Steam Generators dry out, causing an RCS pressure increase that opens the pressurizer PORVs. The open PORVs create a small break LOCA that challenges the Core Cooling CSF. Failure to maintain an adequate heat sink will result in degradation of the Fuel Clad Barrier and RCS Barrier.
Plant Conditions:	<ul style="list-style-type: none"> <li>• One faulted steam generator.</li> <li>• At least one SG is required for heat sink.</li> <li>• Feed water flow is available but not established from any of the following: <ul style="list-style-type: none"> <li>○ Auxiliary Feed Water Pumps</li> <li>○ Main Feed Water Pumps</li> <li>○ Condensate Pumps</li> </ul> </li> <li>• Sufficient time is available to align feed water flow to at least one Steam Generator prior to Wide Range level lowering below 13% [17%].</li> <li>• NO ATWS.</li> <li>• NO Station Blackout.</li> </ul>
Initiating Cue:	<ul style="list-style-type: none"> <li>• Less than 200 GPM of feed water flow to the Steam Generators.</li> <li>• Both Steam Generators levels lowering.</li> <li>• RCS pressure is above the pressure of all Steam Generators.</li> </ul>
Measurable Performance Standard:	<ul style="list-style-type: none"> <li>• Prior to the need to establish bleed and feed, the crew manipulates controls to establish feed water flow into at least one intact SG with one or more of the following: <ul style="list-style-type: none"> <li>○ Auxiliary Feed Water Pumps</li> <li>○ Main Feed Water Pumps</li> <li>○ Condensate Pumps</li> </ul> </li> </ul> <p>NOTES:</p> <ul style="list-style-type: none"> <li>• The crew establishing RCS bleed and feed instead of using a feed water source would most likely constitute a failure.</li> <li>• Steam Generator dry out indicated by BOTH of the following: <ul style="list-style-type: none"> <li>○ Wide Range Level &lt;13% [17%] AND</li> <li>○ SG Pressure rapidly lowering or completely depressurized.</li> </ul> </li> </ul>
Performance Feedback:	<ul style="list-style-type: none"> <li>• Increasing water level in at least one Steam Generator.</li> <li>• Feed water flow into at least one SG.</li> </ul>

**PI-ILT-NRC-2001S, 2020 ILT NRC SIMULATOR EVALUATION #1, REV. 0****CRITICAL TASK SHEET**

Number:	PI-CT-19
Critical Task:	Stop feed flow to the faulted Steam Generator within 45 minutes of this critical task's plant conditions being met.
Safety Significance:	Failure to stop feed flow to a Steam Generator that is faulted into Containment and can NOT be isolated will result in a challenge to the Containment Barrier.
Plant Conditions:	<ul style="list-style-type: none"> <li>• One faulted Steam Generator.</li> <li>• The fault is into Containment.</li> <li>• The fault can NOT be isolated.</li> <li>• A Red/Orange Path in Integrity CSF is likely and can NOT be prevented by crew actions.</li> </ul>
Initiating Cue:	<ul style="list-style-type: none"> <li>• A single Steam Generator depressurizing in an uncontrolled manner or completely depressurized.</li> <li>• Main feed water or auxiliary feed water continues to be delivered to the faulted SG.</li> </ul>
Measurable Performance Standard:	<ul style="list-style-type: none"> <li>• Close/Secure the following valves/pumps aligned to the faulted Steam Generator (as necessary): <ul style="list-style-type: none"> <li>○ AFW Pump Discharge Valve(s)</li> <li>○ AFW Pump(s)</li> <li>○ Main and Bypass Feed Water valve(s)</li> <li>○ MFW Pump(s)</li> </ul> </li> </ul>
Performance Feedback:	<ul style="list-style-type: none"> <li>• AFW flow to the faulted Steam Generator is secured.</li> <li>• SG Feed Water Flow to the faulted Steam Generator is secured.</li> </ul>



**SCENARIO OVERVIEW:****INITIAL CONDITIONS:**

Exposure: MOC  
 Power:  $1 \times 10^{-8}$  AMPS  
 Boron: (CB): 1575 PPM  
 T<sub>AVG</sub>: 549°F  
 Pressure: 2235 PSIG  
 Xenon: Xe Free  
 Rods: CBD @ 142  
 Generator: 0 MW

**EQUIPMENT OOS**

NONE

**SEQUENCE OF EVENTS:****Event 1: Secure 11 TDAFW Pump**

The crew will stop 11 TD AFW Pump per 1C28.1 and place in AUTO.

**Event 2: Raise Reactor Power to the Point of Adding Heat**

- Reactor power is at  $1 \times 10^{-8}$  amps.
- Rods will be stepped out to establish a positive startup rate.
- Power will rise to between 0.5% and 2%.

**Event 3: 12 Charging Pump Trip**

- PRZR level will go down.
- The crew will respond per C47015-0104, 12 Charging Pump Trip.
- The crew will start 13 Charging pump or increase 11 Charging pump speed.

**Event 4: 11 TD AFW Pump Accumulator Low Air Pressure**

- Annunciator 47010-0105 will alarm.
- The crew will close both steam supply valves to 11 TD AFW pump.
- The crew will enter T.S. LCO 3.7.5 Condition B.

**Event 5: 11 Containment Vacuum Breaker Fails Closed**

- CV-31621 11 Containment Vacuum Breaker will fail closed
- 47021-0101 11 CONTAINMENT VACUUM BREAKER CLOSED will alarm.
- The crew will respond to the ARP and attempt to open CV-31621.
- The SS will enter T.S. LCO 3.6.8 Condition A.

**Event 6: 12 Steam Generator Fault to CTMT**

- 12 SG level and pressure will lower, RCS pressure and PRZR level will lower.
- SI will auto actuate.
- The crew will isolate feedwater to 12 SG IAW 1E-2.

**Event 7: 12 MD AFW pump fails to start automatically**

- The crew will manually start 12 MD AFW pump IAW 1E-0.

**Event 8: SI to Feedwater/Condensate Relay Fails to Automatically Actuate**

- SI to Feedwater/Condensate relay fails to actuate on SI actuation.
- The crew will manually align feedwater and condensate components IAW Att. L.

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Retention: Life of Plant

Retain in: Training Program File

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

**PI-ILT-NRC-2001S, 2020 ILT NRC SIMULATOR EVALUATION #1, REV. 0**

<b>SCENARIO TIME-LINE:</b>			
<b>SEQ</b>	<b>SEQUENCE OF EVENTS / INSTRUCTOR NOTES</b>	<b>CREW POS</b>	<b>EXPECTED STUDENT RESPONSES</b>
	<p><b>SIMULATOR PRE-BRIEF:</b></p> <ul style="list-style-type: none"> <li>The Simulator Pre-Brief is conducted prior to the crew entering the simulator.</li> </ul> <p><b>COMPLETE TURNOVER:</b></p> <ul style="list-style-type: none"> <li>“UNIT 1 LPEO / PEO TURNOVER LOG.”</li> <li>Verify crew performs walk down of control boards and reviews turnover checklists.</li> </ul>	CREW	<p>Review the following with the off-going operator:</p> <ul style="list-style-type: none"> <li>“Unit 1 LPEO / PEO Turnover Log”</li> <li>Walk-down the control boards and ask questions as appropriate</li> </ul>

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SCENARIO TIME-LINE:			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
EVENT 1	<p><b>Booth Operator / Communicator:</b></p> <ol style="list-style-type: none"> <li>1. After the crew has assumed the duty, they will secure the 11 TD AFWP IAW the pre-job brief.</li> <li>2. When directed as an out-plant operator to verify 11 TD AFW Pump has stopped, CV-31153 has closed, and Auxiliary lube oil pump is running, then wait approximately 2 minutes and report 11 TD AFW Pump is stopped, CV-31153 is closed, and Auxiliary lube oil pump is running. (1C28.1 steps 6.3.5 A, B, &amp; C)</li> <li>3. When directed as an out-plant operator to stop 11 TD AFW Pump Aux Lube Oil Pump, then wait approximately 3 minutes and report Aux Lube Oil Pump has been stopped. (1C28.1 step 6.3.6)</li> <li>4. If contacted as the duty chemist, acknowledge 11 TD AFW Pump has been stopped.</li> </ol>	BOP (N)	<p><b>1C28.1, AUXILIARY FEEDWATER SYSTEM UNIT 1:</b></p> <ul style="list-style-type: none"> <li>• <b>CLOSE</b> MV-32238, 11 TD AFWP TO 11 STM GEN, using CS-46314.</li> <li>• <b>CLOSE</b> MV-32239, 11 TD AFWP TO 12 STM GEN, using CS-46315.</li> <li>• <b>Stop</b> 11 TD AFW Pump using CS-46424.</li> <li>• <b>Direct</b> an out-plant operator to verify locally: <ul style="list-style-type: none"> <li>○ 11 TD AFW Pump has stopped.</li> <li>○ CV-31153, 11 TD AFW PMP RECIRC/L-O CLG CV, has CLOSED.</li> <li>○ Auxiliary lube oil pump is running.</li> </ul> </li> <li>• <b>Direct</b> an out-plant operator to locally stop 11 TD AFW Pump Aux Lube Oil Pump when 11 TD AFW Pump stops rotating.</li> <li>• <b>OPEN</b> MV-32238, 11 TD AFWP TO 11 STM GEN, using CS-46314.</li> <li>• <b>OPEN</b> MV-32239, 11 TD AFWP to 12 STM GEN, using CS-46315.</li> <li>• Independently <b>verify</b> MV-32238 and MV-32239 are OPEN.</li> <li>• <b>Verify</b> SI Not Ready panel light 44102-A9, 11 AFW DISCH VLV CLOSED, is NOT LIT, indicating the discharge valves are OPEN.</li> <li>• <b>Place</b> CS-46438, 11 TD AFWP selector switch in "AUTO".</li> <li>• Independently <b>verify</b> CS-46438 in AUTO.</li> <li>• <b>Notify</b> the Duty Chemist that 11 TD AFW Pump has been stopped.</li> </ul>

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SCENARIO TIME-LINE:			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
EVENT 2	<p><b>Booth Operator / Communicator:</b></p> <ol style="list-style-type: none"> <li>After the crew has secured the 11 TD AFWP, they raise reactor power to the POAH IAW the pre-job brief.</li> </ol> <p><b>Plant Response:</b></p> <ol style="list-style-type: none"> <li>Intermediate Range power will rise.</li> <li>T<sub>AVG</sub> and PRZR level will rise.</li> <li>Power Range power will come on scale.</li> </ol>	<p>ATC (R)</p> <p>SS (N)</p>	<p><b><u>1C1.2-M2, UNIT 1 STARTUP TO MODE 2:</u></b></p> <ul style="list-style-type: none"> <li>Raise reactor power to the point of adding heat using manual rod control or boron concentration change.</li> <li>When one or more intermediate range indicates greater than <math>1 \times 10^{-9}</math> amps, then verify ERCS is in Mode 2, STARTUP.</li> <li>Using ERCS display XS02 and C41, verify the Subcriticality CSF Activation Status is INACTIVE.</li> <li>Maintain reactor power between 0.5 and 2.0%.</li> </ul>

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SCENARIO TIME-LINE:			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
EVENT 3	<p><b>Booth Operator / Communicator:</b></p> <ol style="list-style-type: none"> <li>After the crew has stopped the 11 TD AFW Pump, and/or at the discretion of the Lead Evaluator, then enter:</li> </ol> <p><b>Trigger 3, 12 Charging Pump Trip</b></p> <ol style="list-style-type: none"> <li>If contacted as Operations Management, acknowledge the report of the failure, and agree to make other notifications to the NRC, Duty Station Manager, etc. as asked.</li> <li>If contacted as FIN team to write a CAP and WR acknowledge the request.</li> <li>If contacted as the outplant operator to investigate 12 Charging pump trip, wait 3 minutes and call back and state there are no VFD fault codes and no apparent cause.</li> <li>If contacted as engineering for concurrence for resetting a VFD fault, acknowledge the report and inform them you will investigate it and get back to them.</li> </ol> <p><b>Plant Response:</b></p> <ol style="list-style-type: none"> <li>12 charging pump trips.</li> <li>PRZR level lowers.</li> <li>The following annunciators will alarm:                             <ol style="list-style-type: none"> <li>C47015-0104, 12 CHARGING PUMP TRIP.</li> </ol> </li> </ol>	ATC (C)	<p><b><u>C47015-0104, 12 CHARGING PUMP TRIP:</u></b></p> <ul style="list-style-type: none"> <li>If necessary, then <b>start</b> another charging pump.                             <ul style="list-style-type: none"> <li>Crew may start 13 Charging pump or may choose to only increase the speed of 11 charging pump.</li> </ul> </li> <li><b>Maintain</b> pressurizer level and seal injection flow.</li> <li>Determine reason for charging pump trip by checking the following:                             <ul style="list-style-type: none"> <li>Observe and log any VFD fault indicated on 71116, 13 CHG PMP VFD CAB, and CS-7111603, 13 CHG PMP SPEED CONT KEYPAD</li> </ul> </li> <li>Reset a “VFD Fault” by performing the following:                             <ul style="list-style-type: none"> <li>IF charging pump operation is NOT immediately required, THEN obtain Engineering concurrence prior to resetting VFD fault</li> </ul> </li> </ul>



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SCENARIO TIME-LINE:			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
EVENT 5	<p><b>Booth Operator / Communicator:</b></p> <ol style="list-style-type: none"> <li>After the crew has closed TD AFWP steam supply valves and addressed tech specs, and/or at the discretion of the Lead Evaluator, then enter: <b>Trigger 5, 11 Containment Vacuum Breaker Fails Closed</b></li> <li>If contacted as the Operations Management, acknowledge the report of the failure, and agree to make other notifications to the NRC, Duty Station Manager, etc. as asked.</li> <li>If contacted as FIN team to write a CAP and WR acknowledge the request.</li> </ol> <p><b>Plant Response:</b></p> <ol style="list-style-type: none"> <li>CV-31621 fails closed.</li> <li>The following annunciator will be received:                             <ol style="list-style-type: none"> <li>47021-0101, CONTAINMENT VACUUM BREAKER CLOSED</li> </ol> </li> </ol>	SS (TS)	<p><b><u>C47021-0101 11 CONTAINMENT VACUUM BREAKER CLOSED:</u></b></p> <ul style="list-style-type: none"> <li><b>Check</b> CV-31621, 11 CNTMT VSL VAC BKR ISOL CV A, not fully OPEN</li> <li><b>Reopen</b> valve unless it was closed due to a Containment Isolation signal.</li> <li><b>IF</b> no Containment isolation signal, <b>THEN</b> verify <b>CV-31622</b>, 12 CNTMT VSL VAC BKR ISOL CV B, OPEN</li> <li><b>Refer</b> to T.S. 3.6.8</li> </ul> <p>The SS will <b>enter</b> the following TS LCOs:</p> <ul style="list-style-type: none"> <li><b>3.6.8 Condition A:</b> <ul style="list-style-type: none"> <li>Restore vacuum breaker train to OPERABLE status within 7 days.</li> </ul> </li> </ul>

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SCENARIO TIME-LINE:			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
<b>EVENTS 6, 7, &amp; 8</b>	<p><b>Booth Operator/Communicator:</b></p> <ol style="list-style-type: none"> <li>When the crew has addressed tech specs for the CTMT vacuum breaker, and/or at the discretion of the Lead Evaluator, then enter: <b>Trigger 6: 12 SG Fault to CTMT</b></li> <li>Upon hearing the announcement of Reactor Trip, or when called as the Turbine Building Operator to isolate the Unit 1 MSR per Attachment J, then open and run schedule file <b>E-0_Att-J.sch</b> located in <b>X:\Trex_P\Lightning\Schedule\EOPs</b>. Inform the crew when the MSR are isolated.</li> <li>Upon hearing the announcement of Safety Injection, or when called as the Turbine Building Operator to secure the Turbine Building Roof Exhausters, wait 2 minutes, and report the Turbine Building Roof Exhausters are all secured and NO Aux Building Vent Zones are open.</li> <li>If contacted as an outplant operator to close TD-4-1, then wait 2 minutes and inform the crew that TD-4-1 is closed.</li> <li>If Control Room personnel ask if Unit 2 personnel are available to perform Attachment L, then inform the Control Room that Unit 2 personnel are NOT available for performing Attachment L.</li> <li>If Control Room personnel ask if Unit 2 personnel are available to secure Diesel Generators and/or Safeguards Cooling Water Pumps, then inform the Control Room that Unit 2 personnel WILL secure the Diesel Generators and/or Safeguards Cooling Water Pumps.</li> <li>If Control Room personnel ask for status of Battery Room Temperatures, then inform the Control Room that Battery Room temperatures are 74°F.</li> </ol>	<p>ATC (M) BOP (M) SS (M)</p> <p>ATC (C) SS (C) <b>CTs 10B &amp; 19</b></p> <p><b>CT 19</b></p>	<p><b><u>1E-0, REACTOR TRIP OR SAFETY INJECTION:</u></b></p> <ul style="list-style-type: none"> <li>Verify the reactor is tripped.</li> <li>Verify main turbine is tripped.</li> <li>Verify both Safeguards buses energized.</li> <li>Determine SI is required and/or actuated.</li> <li>Perform Attachment L (see SEG pages 14 &amp; 15)</li> <li>Check AFW Status.                         <ul style="list-style-type: none"> <li>Manually <b>start</b> 12 MD AFW Pump</li> <li><b>Stop</b> feedwater flow to 12 SG</li> </ul> </li> <li>Check RCS Temperatures trending to 547°F.</li> <li>Check PRZR PORVs and Spray valves closed.</li> <li>If RCS pressure is less than 1600 PSIG, then STOP both RCPs.</li> <li>Determine 12 SG is faulted &amp; go to 1E-2.</li> </ul> <p><b><u>1E-2, FAULTED STEAM GENERATOR ISOLATION:</u></b></p> <ul style="list-style-type: none"> <li>Close 12 MSIV &amp; verify 12 MSIV B/P is closed.</li> <li>Identify 12 SG as the faulted generator.</li> <li>Isolate the following from 12 SG:                         <ul style="list-style-type: none"> <li>main feedwater</li> <li>AFW flow</li> <li>Verify 12 SG PORV is closed.</li> <li>Verify 12 SGB isolation valve is closed.</li> </ul> </li> <li>Check CST levels greater than 12,500 gallons.</li> <li>Check secondary radiation normal.</li> <li>Go to 1E-1.</li> </ul>



PI-ILT-NRC-2001S, 2020 ILT NRC SIMULATOR EVALUATION #1, REV. 0

SCENARIO TIME-LINE:			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
EVENTS 6, 7 & 8 cont.	<p>8. If Control Room personnel ask for status of Spent Fuel Cooling, then inform the Control Room that Spent Fueling level and temperature are normal.</p> <p>9. If Control Room personnel ask for status of Unit 2 Cooling Water/Chilled Water lineup, then inform Crew Unit 2 Cooling Water/Chilled Water valves are in their Safeguards position.</p> <p>10. If contacted as Duty Chemist or Duty RP to check status of secondary radiation levels and/or SG activity levels, then inform the control room that both SG cation column frisks are reading background and secondary radiation levels are normal.</p> <p>11. If contacted as the Duty Chemist to initiate periodic samples of both Unit 1 SGs, then acknowledge the request.</p> <p><b>Plant Response:</b></p> <ol style="list-style-type: none"> <li>12 SG pressure lowers rapidly.</li> <li>RCS &amp; PRZR pressure lower.</li> <li>Containment Pressure rises.</li> </ol> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p align="center"><b>CRITICAL TASKS</b></p> <ul style="list-style-type: none"> <li>PI-CT-10B: Establish feed water flow to the INTACT Steam Generator to prevent the INTACT Steam Generator from reaching DRYOUT conditions.</li> <li>PI-CT-19: Stop feed flow to the faulted Steam Generator within 45 minutes of this critical task's plant conditions being met.</li> </ul> </div>	BOP (C) SS (C)	<p><b><u>1E-1, LOSS OF REACTOR OR SECONDARY COOLANT:</u></b></p> <ul style="list-style-type: none"> <li>If RCS pressure is less than 1600 PSIG, then <b>STOP</b> both RCPs.</li> <li><b>Determine</b> 11 SG is NOT faulted.</li> <li><b>Check</b> 11 SG level &gt;50% WR.</li> <li><b>Check</b> secondary radiation normal.</li> <li><b>Verify</b> both PORVs closed, power to both block valves, and one block valve open.</li> <li><b>Reset</b> SI.</li> <li><b>Reset</b> CI.</li> <li><b>Establish</b> IA to CTMT.</li> <li>Check offsite power available to charging pumps.</li> <li>Determine SI pumps can or cannot be stopped. (May transition to 1ES-0.2)</li> <li>Stop RHR pumps.</li> </ul> <p><b><u>1E-0 ATTACHMENT L: SI ALIGNMENT VERIFICATION:</u></b></p> <ul style="list-style-type: none"> <li><b>Verify</b> Safeguards Component Alignment                             <ul style="list-style-type: none"> <li>See table on page 15</li> </ul> </li> <li><b>Close</b> MV-32115, 122 SFP HX INLT HDR MV B</li> <li>Check Cooling Water Header Pressures</li> <li>Verify plant announcements complete</li> <li>Check If Main Steamlines Are required to be isolated</li> <li>Verify SI &amp; RHR Flow</li> <li>Check RCP Cooling</li> <li>Verify Generator Breakers – OPEN</li> </ul>

PI-ILT-NRC-2001S, 2020 ILT NRC SIMULATOR EVALUATION #1, REV. 0

SCENARIO TIME-LINE:																																																
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES																																													
<b>EVENTS 6, 7 &amp; 8 cont.</b>	<b>NOTE</b> <i>The operator will have to perform the following to align Safeguards Components for Safety Injection:</i>		<ul style="list-style-type: none"> <li>• Verify All Heater Drain Pumps – STOPPED</li> <li>• <b>Open</b> turbine drain valves</li> <li>• Verify Main Feedwater Alignment</li> <li>• Verify All Condensate Pumps - STOPPED</li> <li>• <b>Place</b> Steam Dump in "STM PRESS" Mode</li> <li>• Verify Unit 1 Cooling Water/Chilled Water Alignment</li> <li>• Verify 11 Safeguards Screenhouse Ventilation lineup</li> <li>• Verify Control Room Ventilation Alignment</li> <li>• Verify Unit 2 Cooling/Chilled Water Alignment</li> <li>• Verify 21 Safeguards Screenhouse Ventilation lineup</li> <li>• Verify 11 and 12 Battery Charger Operation is normal</li> <li>• Verify Battery Room temps less than 84°F</li> <li>• Check status of Spent Fuel Cooling</li> <li>• Check Status Of Notifications</li> <li>• <b>Notify</b> SS Of Any Discrepancies</li> </ul>																																													
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">CS #</th> <th style="width: 70%;">COMPONENT</th> <th style="width: 20%;">DESIRED CONDITION</th> </tr> </thead> <tbody> <tr> <td colspan="3" style="text-align: center;">(Normally Aligned in Att. L)</td> </tr> <tr> <td>46064</td> <td>MV-32115, 122 SFP HX INLT HDR MV B</td> <td>CLOSED</td> </tr> <tr> <td>46018</td> <td>11 CFCU</td> <td>SLOW</td> </tr> <tr> <td>46019</td> <td>13 CFCU</td> <td>SLOW</td> </tr> <tr> <td colspan="3" style="text-align: center;">(Align due to Malfunctions)</td> </tr> <tr> <td>46425</td> <td>12 MD AFW PUMP</td> <td>ON</td> </tr> <tr> <td>46410</td> <td>11 COND PUMP</td> <td>OFF</td> </tr> <tr> <td>46418</td> <td>11 FW PUMP</td> <td>OFF</td> </tr> <tr> <td>43062</td> <td>CV-31127, A FW REG VLV</td> <td>DEMAND: ZERO</td> </tr> <tr> <td>43063</td> <td>CV-31128, B FW REG VLV</td> <td>DEMAND: ZERO</td> </tr> <tr> <td>1HC480</td> <td>CV-31369, A BYPASS FW</td> <td>DEMAND: ZERO</td> </tr> <tr> <td>1HC481</td> <td>CV-31370, B BYPASS FW</td> <td>DEMAND: ZERO</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>			CS #	COMPONENT	DESIRED CONDITION	(Normally Aligned in Att. L)			46064	MV-32115, 122 SFP HX INLT HDR MV B	CLOSED	46018	11 CFCU	SLOW	46019	13 CFCU	SLOW	(Align due to Malfunctions)			46425	12 MD AFW PUMP	ON	46410	11 COND PUMP	OFF	46418	11 FW PUMP	OFF	43062	CV-31127, A FW REG VLV	DEMAND: ZERO	43063	CV-31128, B FW REG VLV	DEMAND: ZERO	1HC480	CV-31369, A BYPASS FW	DEMAND: ZERO	1HC481	CV-31370, B BYPASS FW	DEMAND: ZERO						
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<b>END</b>	Once the crew has <b>isolated 12 SG and completed Att. L</b> , and/or at the discretion of the Lead Evaluator, then place the simulator in FREEZE. Inform the crew training has the duty.																																															
	<b>Booth Operator:</b>  <i>Collect SBT data per Attachment 1, if necessary.</i>																																															

## PI-ILT-NRC-2001S, 2020 ILT NRC SIMULATOR EVALUATION #1, REV. 0

**SIMULATOR INPUT SUMMARY**

@Time	Event	Action	Description
0		Insert malfunction FW34B	AUX FW PUMP #12 (MOTOR DRIVEN) FAILS TO START AUTOMATICALLY
0		Insert malfunction RP19	FAILURE OF SI TO FW/COND SIGNAL TO ACTUATE
	3	Insert malfunction VC04B on event 3	POSITIVE DISPLACEMENT CHARGING PUMP #12 TRIP
	4	Insert malfunction M47010:0105W to Cry_Wolf on event 4	11 TDAFWP ACCUM LOW AIR PRESS
	5	Insert override DI-46054C to True on event 5	11 CTMT VAC BKR FAILS CLOSED
	6	Insert malfunction MS01B to 30.00000 on event 6	! MS LINE #12 RUPTURE INSIDE CONTAINMENT UPSTREAM OF MSIV

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 Retention: Life of Plant

Retain in: Training Program File

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

## Simulator Setup:

### Beginning of Day:

1<sup>st</sup> / 2<sup>nd</sup>

- \_\_\_ / \_\_\_ 1. If it is the first scenario of the day, then perform a **shutdown** and **restart** of the floor PCs that are connected to the LAN.
- \_\_\_ / \_\_\_ 2. **Log in** on floor PCs with user ID & password: <pitrgsim>
- \_\_\_ / \_\_\_ 3. Verify on Adobe Acrobat Reader that the “Restore Last View Settings When Reopening Documents” box is **NOT checked**. (Found under EDIT→DOCUMENT)
- \_\_\_ / \_\_\_ 4. **Update** or **Verify** Control Room Placards:
  - a. NRC Code Placard:
    - i. NRC Current Authentication Code **D3RF**.
    - ii. Today's Date.
  - b. High Flux at Shutdown Alarm Setpoint placards: 5200 cps.
  - c. Feedwater regulating valve position placard set to current values.
  - d. Recommended SG Blowdown flow **set to current values**.
- \_\_\_ / \_\_\_ 5. Verify **Current** Plant Status Magnetic Placards are in Place:
  - a. Blowdown 46470 “SGB To RIVER”
  - b. H2 in VCT Space
  - c. 11 BA TANK “Lined Up For Service”
  - d. 11 BA PUMP “Lined Up to 11 BA Tank”
  - e. 12 BA PUMP “Lined Up to 11 BA Tank”
  - f. CC to SFP MV-32115 “In Service”
  - g. CC to SFP MV-32117 “In Service”
- \_\_\_ / \_\_\_ 6. Current Plant **Pink Status Control Tags** in place:
  - a. CS-46540, 22 CC WTR PUMP
  - b. CS-46572, 121 SFP HX INLT
- \_\_\_ / \_\_\_ 7. Current Plant **Yellow Status Control Tags** in place:
  - a. CS-46063, 11 CC HDR TO WST DISP HX MV-32102
- \_\_\_ / \_\_\_ 8. Verify that copy machine and printers are loaded with YELLOW BORDER paper.
- \_\_\_ / \_\_\_ 9. Pens/Notepads/Markers available on the simulator.

## Simulator Setup:

**NOTE: The time between simulator reset and placing simulator in RUN should be minimized to reduce the difference between the ERCS time and actual time.**

1<sup>st</sup> / 2<sup>nd</sup>

- \_\_\_ / \_\_\_ 1. If this is the first scenario of the day, then perform Beginning of Day checklist on previous page.
- \_\_\_ / \_\_\_ 2. If an IC is already created for this scenario, then go to Step 4.
- \_\_\_ / \_\_\_ 3. If an IC is NOT created for this scenario, then create as follows:
- a. Reset the simulator to IC-18.
  - b. Verify 1HC-484, MAIN STM HDR PRESS (STM DUMP), set point is set to 71.8% +/- 2%.
  - c. Place the simulator in RUN.
  - d. Verify RCS T<sub>AVG</sub> stabilized at 549°F.
  - e. Verify RCP Seal Injection at 8 GPM and charging flow balanced with letdown.
  - f. Adjust rods as necessary to establish reactor power at approx.  $1 \times 10^{-8}$  amps and stable.
  - g. Insert **Remote SG100 to CW**.
  - h. For 11 TD AFW Pump, perform the following:
    - i. Close MV-32238, 11 TD AFWP TO 11 STM GEN, using CS-46314.
    - ii. Close MV-32239, 11 TD AFWP TO 12 STM GEN, using CS-46315.
    - iii. Place CS-46438, 11 TD AFWP, to MANUAL.
    - iv. Start 11 TD AFWP using CS-46424.
    - v. Throttle MV-32238 and MV-32239 to establish 25 gpm to each SG.
  - i. Take the following to PULLOUT:
    - i. CS-46362, 4.16KV BUS 11 1M XFMR (BKR 11-4).
    - ii. CS-46363, 4.16KV BUS 12 1M XFMR (BKR 12-4).
    - iii. CS-46364, 4.16KV BUS 13 1M XFMR (BKR 13-9).
    - iv. CS-46365, 4.16KV BUS 14 1M XFMR (BKR 13-9).
  - j. OPEN SV-33341, AIR EJCTR LOOP SEAL DRN, using CS-46403.
  - k. Verify TPM is set to NIS.
  - l. If time permits, run simulator for approximately 30 minutes.
  - m. Place simulator in FREEZE.
  - n. If desired, save to available IC.
  - o. Go to step 4.

**PI-ILT-NRC-2001S, 2020 ILT NRC SIMULATOR EVALUATION #1, REV. 0****Simulator Setup cont.:**

- \_\_\_ / \_\_\_ 4. Reset the Simulator to **IC-251** and place in RUN.
- a. Verify  $T_{AVG}$  is stable @ ~549°F. If necessary, adjust Steam Dump SETPOINT DIAL to maintain temperature.
- \_\_\_ / \_\_\_ 5. If available, run schedule file **PI-ILT-NRC-2001S.sch** as follows:
- a. Locate schedule file.
  - b. Open schedule file by double clicking it.
  - c. Run the schedule file by pressing the "Stopped" button on the toolbar.
  - d. Verify the schedule file is running.
- \_\_\_ / \_\_\_ 6. If schedule file is NOT available, reset Simulator to IC-251 or IC created in step 3, place in RUN, and insert malfunctions, remotes, and overrides, as specified by the Simulator Input Summary.
- \_\_\_ / \_\_\_ 7. Mark up 1C1.2-M2, Unit 1 Startup to Mode 2, sections 5.1-5.3. N/A or leave blank any appropriate steps.
- \_\_\_ / \_\_\_ 8. If desired, start Scenario Based Testing Data Collection Program per Att 1.
- \_\_\_ / \_\_\_ 9. Complete the "Simulator Setup Checklist" on next page.

## SIMULATOR SETUP CHECKLIST

### Pre-Scenario Checklist:

1<sup>st</sup> / 2<sup>nd</sup>  /  

Simulator Status:

- |   |  |
|---|--|
| <input type="checkbox"/> 1. "Training Load" | <input type="checkbox"/> 4. Step counters: NOT USED                |
| <input type="checkbox"/> 2. Alarm sound: ON | <input type="checkbox"/> 5. Simulator running in IC-18 or IC-251.  |
| <input type="checkbox"/> 3. Speed: REAL     | <input type="checkbox"/> 6. Steps 1 – 8 on previous page complete. |

  /  **Delete** memory on Yokogawa Model DX1000 recorders by cycling Recorder Power.  /  

Verify Schedule File/Summary matches Simulator Input Summary page in the SEG.

  /  Verify that control rod step counters on C panel and ERCS RBU **CBD @ 142**.  /  Boric Acid/RMU integrators set to: **BA: 0, RMU: 20, and RESET**.  /  **MOC ΔI** sheet displayed on C panel.  /  **MOC Reactivity Briefing** sheet available at Reactor Operator Desk.  /  

Verify Boric Acid and Reactor Makeup Controllers are set properly:

- 1. 1HC-110: **34.6%**
- 2. 1HC-111: **44.7%**

  /  **Update or Verify** SEG specific Control Board Placards:

- 1. CVCS panel placard:
  - a. RCS boron – **1575 ppm**.
  - b. RCS H<sub>2</sub> – **45 cc/kg**.
  - c. Turbine Reference Value and Mode – **matched with DEHC**.
- 2. Shift Reactivity Guidance placard:
  - a. BA: **0 gallons**
  - b. RMU: **0 gallons**
  - c. Dilutions @ **N/A**
- 3. EAL Classification Placard **CLEANED** and **placed** on side of SS desk.
- 4. LCO Timer **CLEANED**.

  /  SEG specific **Magnetic Placards** in place:  /  

- 1. NONE

  /  SEG specific or Protected Equipment **Pink Status Control Tags** in place:  /  

- 1. NONE

  /  SEG specific or Out of Service **Yellow Caution Tags** are in place:

- 1. NONE

**PI-ILT-NRC-2001S, 2020 ILT NRC SIMULATOR EVALUATION #1, REV. 0****Pre-Scenario Checklist continued:****1<sup>st</sup> / 2<sup>nd</sup>**  /   ERCS driven recorders are on-scale (RCS temperature scaled **545° F to 555° F**).  /   ERCS alarm screen operating and alarms **reset**.  /   All ERCS terminals operating and set as follows:

CONF	<b>VARs</b>	R02	<b>Alarm Summary Page</b>
CONE1	<b>Group OP31_U1</b>	R03	<b>AFD</b>
CONC	<b>SAS (XS11)</b>	R04	<b>TPM</b>
CONG1	<b>Group QP CCDATA</b>	R05	<b>QP LOADFOLL</b>
ERCS-R01	<b>Group RADMON_U1</b>	R06	<b>Alarm Summary Page</b>

  /   ERCS single point displays:

CONB	<b>1T0499A</b>	<b>1U1613A</b>
CONE2	<b>1Q0340A</b>	<b>1V4501A</b>

  /   ERCS TPM set (**NIS - Auto Scaling - Venturi**).  /   Set Turbine Control HMI Displays as follows:

- 1. U1 E-H Turb Cont STA 2 (48087) to **Control Valve Overview**
- 2. U1 Turb Aux Cont (48088) to **Turb Overview**
- 3. U1 E-H Turb Cont STA 1 (48086) to **On Line Control**
- 4. DEHC alarms **cleared**.

  /   YELLOW turnover sheets 1-9 available.  /   All Fire alarms **CLEAR**.  /   Electronic PINGP 577 forms and TABS **closed** on both LAN connected PCs.  /   Board-mounted EAL Tables are **cleaned**.  /   Headsets turned on as necessary.  /   Procedure checklist **completed**. See following page.  /   Peer Check performed for simulator setup.



**PROCEDURE CHECKLIST:**

**NOTE:** The following procedures will be used during this session. Verify the procedures are free of place keeping marks before starting the session and after the session are complete.

Before 1 <sup>st</sup> / 2 <sup>nd</sup>	After 1 <sup>st</sup> / 2 <sup>nd</sup>	
/	/	1C1.2-M2, UNIT 1 STARTUP TO MODE 2
/	/	1C28.1, AUXILIARY FEEDWATER SYSTEM UNIT 1
/	/	
/	/	C47010-0105, 11 TD AFWP ACCUMULATOR LO AIR PRESS
/	/	C47021-0101 11 CONTAINMENT VACUUM BREAKER CLOSED
/	/	C47015-0104, 12 CHARGING PUMP TRIP
/	/	
/	/	1E-0, REACTOR TRIP OR SAFETY INJECTION
/	/	1E-0, ATT. L, SI ALIGNMENT VERIFICATION
/	/	1E-1, LOSS OF REACTOR OR SECONDARY COOLANT
/	/	1E-2, FAULTED STEAM GENERATOR ISOLATION
/	/	1E-CAS, UNIT 1 CONTINUOUS ACTION & INFO PAGE SUMMARY
/	/	
/	/	EAL BOARD
/	/	
/	/	LAMINATE COPY OF 1C5, SECTION 5.5
/	/	LAMINATE COPY OF 1C12.5, SECTIONS 5.8 & 5.9
/	/	LAMINATE COPY OF 1C12.5, SECTION 5.10
/	/	LAMINATE COPY OF 1C1.4 AOP1, RAPID LOAD REDUCTION UNIT 1
/	/	
/	/	REACTIVITY BRIEFING SHEET - MOC
/	/	
/	/	SWI O-28, NOTIFICATION OF OPS MNGR & NRC RESIDENT INSPECTOR
/	/	
/	/	T.S. LCO 3.3.1
/	/	T.S. LCO BASES 3.3.1
/	/	T.S. LCO 3.3.2
/	/	T.S. LCO BASES 3.3.2
/	/	
/	/	
/	/	
/	/	
/	/	

**Post-Scenario Checklist**1<sup>st</sup> / 2<sup>nd</sup>  /  Computer generated PINGP 577 **cleared** and tab **closed**.  /  

Verify no electronic procedures are open on either Sim Floor computer.

  /  

Verify recent history on IE and Adobe are clear for BOTH Sim Floor computers.

  /  Procedure checklist **completed**. See previous page.  /  **Remove** Pink Status Control Tags from the following equipment:   1. NONE  /  **Remove** Magnetic placards from Control Boards:   1. EAL Classification Placard from Control Board.   2. RED/WHITE Critical Parameter Cards  /  **Remove** Yellow Caution Tags from the following equipment:   1. NONE  /  Board-mounted EAL Table is **cleaned**.  /  

All books, note pads, and calculators put away.

**End Of Day Checklist**1<sup>st</sup> / 2<sup>nd</sup>  /  

Signs/placards removed and put away unless normal simulator configuration.

  /  

If desired, floor PCs logged off if simulator will not be used again that day.

  /  

Instructor station returned to normal with all books, paper, and pens, etc. put away.

  /  

Headsets turned off and put away if simulator will not be used again that day.

  /  

Simulator reset to IC-10 unless another IC will be used for further training.

  /  

Simulator placed in DORT if simulator will not be used again that day.

  /  Verify the following placards are **erased**:

- CVCS panel
- Shift Reactivity Guidance
- LCO Timer
- NRC Authentication Code

RETENTION: 7 Days

**UNIT 1 LPEO / PEO TURNOVER LOG**

DATE: 8/17/2020

DAY/NIGHT SHIFT: Day

CAT 1 VENT OPENINGS: 0 ft<sup>2</sup>

SYSTEM CONDITION: GREEN

<b>SAFEGUARDS EQUIPMENT OOS/TECH SPEC REQUIRED ACTION STATEMENTS</b>				
<ul style="list-style-type: none"> <li>• NONE</li> </ul>				
<b>PROTECTED EQUIPMENT</b>				
SFP COOLING				
<b>RAD MONITORS OOS</b>		<b>ANNUNCIATORS OOS</b>		
NONE		NONE		
<b>OUTSTANDING SP'S</b>		<b>FIRE DET / PROT EQP IMPAIRMENTS</b>		
NONE		NONE		
<b>OTHER EQUIPMENT OOS / STATUS</b>				
Exposure:	MOC	Pressure:	2235 PSIG	Unit 2 is at 100% power.
Power:	1x10 <sup>-8</sup>	Xenon:	Free	
Boron (CB):	1575 PPM	Rods:	CBD @ 142	
T <sub>AVG</sub> :	549°F	Generator:	0 MW	
<b>MAJOR EQUIPMENT REPAIRED / RETURNED TO SERVICE</b>				
NONE				
<b>OPERATIONAL PLANS FOR COMING SHIFT</b>				
Stop 11 TD AFW pump and place in AUTO per 1C28.1, 6.3. Raise reactor power to the POAH per 1C1.2-M2, 5.4.				
<b>NEW PROCEDURES / INSTRUCTIONS</b>				
11 TD AFW Pump is running for transition to MFW.				

of 9

## Simulator Scenario Development Checklist

Mark with an X Yes or No for any of the following. If the answer is No, include justification for the no answer or the corrective action needed to correct the discrepancy after the item.

- |  |                 |                |
|--|-----------------|----------------|
| 1. The scenario contains objectives for the desired tasks and relevant human performance tools.  | Yes<br><b>X</b> | No             |
| 2. The scenario identifies key parameter response, expected alarms, and automatic actions associated with the induced perturbations.   | Yes<br><b>X</b> | No             |
| 3. The scenario content adequately addresses the desired tasks, through simulator performance, instructor-led training freezes, or both.   | Yes<br><b>X</b> | No             |
| 4. Plant PRA initiating events, important equipment, and important tasks are identified.   | Yes<br><b>X</b> | No             |
| 5. Turnover information includes a Daily At Power or Shutdown Safety Risk Assessment. <i>Justification: PRA software not installed on Sim computers.</i>   | Yes             | No<br><b>X</b> |
| 6. The scenario contains procedurally driven success paths. Procedural discrepancies are identified and corrected before training is given.  | Yes<br><b>X</b> | No             |
| 7. The scenario guide includes responses for all anticipated communications to simulated personnel outside the Control Room, based on procedural guidance and standard operating practices. Include estimated completion times and/or notes for use of time compression. | Yes<br><b>X</b> | No             |
| 8. The scenario includes related industry experience. SOER, SER and similar OE recommendations are clearly identified and fully addressed.*  | Yes             | No<br><b>X</b> |
| 9. The scenario guide incorporates verification of Operator Fundamental application.*  | Yes             | No<br><b>X</b> |
| 10. Training elements and specific human performance elements are addressed in the scenario critique guide to be used by the critique facilitator. The critique guide includes standards for expected performance.*  | Yes             | No<br><b>X</b> |
| 11. For evaluations, it has been verified that without operator action the critical tasks will be failed.  | Yes<br><b>X</b> | No             |

Developer and Reviewer: Once checklist is completed and deficiencies are corrected, sign the cover page.

\* For evaluations these items may be marked NO without justification.

## PI-ILT-NRC-2001S, 2020 ILT NRC SIMULATOR EVALUATION #1, REV. 0

**Simulator Scenario Validation Checklist**

Mark with an X Yes or No for any of the following. If the answer is No, include an explanation after the item.

- |  |                 |    |
|--|-----------------|----|
| 1. The desired initial conditions agreed with the reference plant with respect to reactor status, plant configuration, and system operation.   | Yes<br><b>X</b> | No |
| 2. The simulator operated in real time during conduct of validation.   | Yes<br><b>X</b> | No |
| 3. The simulator demonstrated expected plant response to operator input and to normal, transient, and accident conditions.   | Yes<br><b>X</b> | No |
| 4. The simulator permitted use of the reference plant's procedures. The scenario was completed without procedural exceptions, simulator performance exceptions, or deviation from the scenario sequence. | Yes<br><b>X</b> | No |
| 5. The simulator did not "fail to cause" or "unexpectedly cause" any first principle alarm or primary automatic action.  | Yes<br><b>X</b> | No |
| 6. Observable changes in parameters relevant to the scenario corresponded in trend and direction to reference plant's expected response.   | Yes<br><b>X</b> | No |
| 7. All malfunctions and other instructor interface items were functional and demonstrated the expected reference plant's response to the initiating cause.   | Yes<br><b>X</b> | No |
| 8. All malfunctions and other instructor interface items were initiated in the same sequence described within the simulator scenario.  | Yes<br><b>X</b> | No |
| 9. The scenario satisfies the learning or examination objectives without any significant simulator performance issues, or deviations from the approved scenario sequence.                                | Yes<br><b>X</b> | No |
| 10. Simulator fidelity has been demonstrated to be adequate for this scenario.   | Yes<br><b>X</b> | No |

Discrepancies noted (Check "none" or list items found)  None

SMAR = Simulator Action Request

SMAR: \_\_\_\_\_ SMAR: \_\_\_\_\_ SMAR: \_\_\_\_\_ SMAR: \_\_\_\_\_

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Retention: Life of Plant

Retain in: Training Program File

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

**PI-ILT-NRC-2001S, 2020 ILT NRC SIMULATOR EVALUATION #1, REV. 0**

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Validator: Sign the cover page only after noted discrepancies are corrected or compensatory actions are taken to ensure quality training.

<b>Validation Personnel</b>		
<b>Name</b>	<b>Job Title / Qualification</b>	<b>Validation Position</b>
VELASCO	SRO	SS
HELLAND	RO	BOP
LODERMEIER	RO	ATC

**ATTACHMENT 1****SBT EXAM DATA COLLECTION****• BEFORE SCENARIO**

- START menu
- SBT Report
- File
- OPEN
- Select file type “.tis”
  - (FILE LOCATION: sim data (X:) / TRex\_PI / LIGHTNING / SBT
- Select SBT.tis
- OPEN or double click
- Check TAM log & verify no cycling switches
- Run scenario

**• AFTER SCENARIO**

- FREEZE on Simulator
- Click GREEN arrow to generate report
- Enter the following:
  - (NAME is not required)
  - Test Title (2001S ILT NRC SBT Group x)
  - Report Name (same as test title)
- Click the “...” button to right of Report Name field.
- Select location where file is to be saved (on Locker G3 flash drive)
- Enter file name (same as report name) & SAVE
- Click GENERATE, verify file location, and close “html” file
- START menu
- COMPARE IT
- Click “+” ADD
- Select “.csv” file from previously saved location
- OPEN or double click
- Click GREEN “COMPARE” button
- Wait for spreadsheet to populate and then save in desired location
- Verify all 3 files are saved in proper location
- Close spreadsheet, COMPARE IT, and SBT Report

**SIMULATOR EXERCISE GUIDE (SEG)**

**SITE: PRAIRIE ISLAND** **SEG # PI-ILT-NRC-2002S**

**SEG TITLE: 2020 ILT NRC SIMULATOR EVALUATION #2** **REV. # 0**

**PROGRAM: INITIAL LICENSE OPERATOR TRAINING #: FL-ILT**

**COURSE: INITIAL LICENSE OPERATOR TRAINING #: FL-ILT**

**TOTAL TIME: 2.0 HOURS**

Additional site-specific signatures may be added as desired.

<b>Developed by:</b>	<b>Fredrick Collins</b> <i>Instructor</i>	<i>Date</i>
<b>Reviewed by:</b>	<b>Justin Hasner</b> <i>Instructor</i> ( <i>Simulator Scenario Development Checklist.</i> )	<i>Date</i>
<b>Validated by:</b>	<b>Justin Hasner</b> <i>Validation Lead Instructor</i> ( <i>Simulator Scenario Validation Checklist.</i> )	<i>Date</i>
<b>Approved by:</b>	<i>Training Supervision</i>	<i>Date</i>



## Guide Requirements

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### Evaluation Objectives:

Evaluate the crew's ability to:

1. Swap EH Oil Pumps per 1C23.

Evaluate the crew's ability to diagnose and respond to:

2. Pressurizer Pressure Instrument failing low per 1C51.2.
  3. Emergency Diesel Generator Local Alarm per C47024.
  4. Turbine EH valve malfunction per 1C23 AOP2.
  5. Rapid Load Reduction per 1C1.4 AOP1.
  6. Loss of All Onsite and Offsite Power per 1E-0 and 1ECA-0.0.
  7. Main Turbine fails to automatically trip per 1E-0.
  8. Failure of D2 EDG to automatically start per 1ECA-0.0.
  9. Failure of 12 MD AFW Pump to auto start per 1ECA-0.0.
- 

### Training Resources:

1. Full Scope Simulator
  2. NRC Evaluation Team
  3. Booth Operator (Backup Communicator)
  4. Primary Communicator
- 

### Related PRA Information:

#### **Initiating Event with Core Damage Frequency:**

Loss of Offsite Power (20.3%)

#### **Important Components:**

12 MD AFW PMP

D2 DSL GEN

#### **Important Operator Actions with Task Number:**

CRO 000 055 05 01 000 – Loss of Offsite and Onsite Power

CRO 062 ATI 00 00 017 – Energize a Dead 4.16KV Bus

## QUANTITATIVE ATTRIBUTES

### **Malfunctions:**

#### *Before EOP Entry:*

1. 1P-431, PRZR Pressure Blue Channel Fails Low.
2. Turbine EH Valves Fail Closed.

#### *After EOP Entry:*

1. Main turbine auto trip failure.
2. D2 Emergency Diesel Generator fails to start automatically.
3. 12 MD AFW pump fails to start.

### **Abnormal Events:**

1. Instrument Failure Guide.
2. Rapid Load Reduction

### **Major Transients:**

1. Loss of All Onsite and Offsite AC Power

### **Critical Tasks:**

1. PI-CT-6: Energize at least one AC emergency bus when safeguards equipment is required to perform its safety function or prior to ORANGE or RED path on Core Cooling CSF.
2. PI-CT-11: During a Station Blackout, establish Auxiliary Feedwater flow to the Steam generators to prevent both Steam Generators from reaching DRYOUT conditions.

**PI-ILT-NRC-2002S, 2020 ILT NRC SIMULATOR EVALUATION #2, REV. 0****CRITICAL TASK SHEET**

Number:	PI-CT-6
Critical Task:	Energize at least one AC emergency bus when safeguards equipment is required to perform its safety function or prior to ORANGE or RED path on Core Cooling CSF.
Safety Significance:	Failure to energize an AC emergency bus when an AC power source is available unnecessarily makes safeguards equipment unavailable when needed.
Plant Conditions:	<ul style="list-style-type: none"> <li>• Loss of Bus 15 AND Bus 16.</li> <li>• At least one source is available to supply power to Bus 15 or Bus 16.</li> </ul>
Cues:	<ul style="list-style-type: none"> <li>• Bus 15 and bus 16 is de-energized.</li> <li>• All source breakers to buses 15 and 16 are open or tripped.</li> </ul>
Performance Indicator:	<ul style="list-style-type: none"> <li>• Manipulation of controls to establish one safeguards bus powered from an available source.</li> </ul>
Feedback:	<ul style="list-style-type: none"> <li>• Bus 15 or 16 is energized.</li> </ul>

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 Retention: Life of Plant

Retain in: Training Program File

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

**CRITICAL TASK SHEET**

Number:	PI-CT-11
Critical Task:	During a Station Blackout, establish Auxiliary Feed Water flow to the Steam Generators to prevent both Steam Generators from reaching DRYOUT conditions.
Safety Significance:	With insufficient feed water flow, the Steam Generators dry out, causing an RCS pressure increase that opens the pressurizer PORVs. The open PORVs create a small break LOCA that challenges the Core Cooling CSF. Failure to maintain an adequate heat sink will result in degradation of the Fuel Clad Barrier and RCS Barrier.
Plant Conditions:	<ul style="list-style-type: none"> <li>• Loss of Offsite Power.</li> <li>• Loss of Bus 15 AND Bus 16.</li> <li>• 11 TD AFW Pump fails to automatically start.</li> <li>• 11 TD AFW Pump is capable of being started from the Control Room.</li> </ul>
Cues:	<ul style="list-style-type: none"> <li>• 11 TD AFW Pump not running.</li> <li>• One or more Steam Generator NR Levels drop below 13%.</li> <li>• Indications of a Station Blackout.</li> </ul>
Performance Indicator:	<ul style="list-style-type: none"> <li>• 11 TD AFW Pump selector switch placed in MANUAL.</li> <li>• 11 TD AFW Pump hand switch momentarily placed in START.</li> </ul> <p>NOTES:</p> <ul style="list-style-type: none"> <li>• Steam Generator dry out indicated by BOTH of the following:                             <ul style="list-style-type: none"> <li>○ Wide Range Level &lt;13% [17%] AND</li> <li>○ SG Pressure rapidly lowering or completely depressurized.</li> </ul> </li> </ul>
Feedback:	<ul style="list-style-type: none"> <li>• Increasing water level in at least one Steam Generator.</li> <li>• Feed water flow into at least one SG.</li> </ul>

**SCENARIO OVERVIEW:****INITIAL CONDITIONS:**

Exposure: EOC  
 Power: 100%  
 Boron: (CB): 102 PPM  
 T<sub>AVG</sub>: 560°F  
 Pressure: 2235 PSIG  
 Xenon: Equilibrium  
 Rods: CBD @ 218  
 Generator: 582 MW

**EQUIPMENT OOS**

11 TD AFWP

**SEQUENCE OF EVENTS:****Event 1: Swap Running EH Oil Pumps**

- 11 EH Oil pump is running.
- The crew will start 12 EH Oil pump and stop 11 EH Oil pump per 1C23.

**Event 2: 1P-431, Blue Channel Pressurizer Pressure, fails LOW.**

- PRZR Level Blue Channel 1P-431 will fail low.
- The crew will place PRZR level control in RED-BLUE (1-3).
- The Shift Supervisor will enter TS LCO 3.3.1 Conditions A & K.

**Event 3: C47024-1203, D1 Local Alarm**

- The D1 Local Alarm will come in due to low starting air pressure.
- The SS will enter TS LCO 3.8.1 Condition B.

**Events 4 & 5: Turbine EH Valve Malfunction / Rapid Load Reduction**

- Diagonally opposite turbine control IVs will fail closed.
- The crew will determine a rapid load reduction is required per 1C23 AOP2.
- The crew will perform a Rapid Load Reduction per 1C1.4 AOP1.

**Event 6: Loss of All AC Power**

- The reactor will trip upon loss of all AC due to loss of flow.
- The crew will enter 1E-0 then transition to 1ECA-0.0.
- The crew will have to manually start D2 and place D2 EDG on Bus 16 to restore power to a U1 safeguards bus.

**Event 7: Main turbine fails to automatically trip**

- The crew will manually start D2 per 1ECA-0.0.

**Event 8: D2 fails to start automatically**

- The crew will manually start D2 per 1ECA-0.0.

**Event 9: 12 MD AFW pump fails to start automatically**

- The crew will manually start 11 TD AFW pump per 1ECA-0.0.

**PI-ILT-NRC-2002S, 2020 ILT NRC SIMULATOR EVALUATION #2, REV. 0**

<b>SCENARIO TIME-LINE:</b>			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
	<p><b>SIMULATOR PRE-BRIEF:</b></p> <ul style="list-style-type: none"> <li>The Simulator Pre-Brief is conducted prior to the crew entering the simulator.</li> </ul> <p><b>COMPLETE TURNOVER:</b></p> <ul style="list-style-type: none"> <li>“UNIT 1 LPEO / PEO TURNOVER LOG.”</li> <li>Verify crew performs walk down of control boards and the reviews turnover checklists.</li> </ul>	CREW	<p>Review the following with the off-going operator:</p> <ul style="list-style-type: none"> <li>“Unit 1 LPEO / PEO Turnover Log”</li> <li>Walk-down the control boards and ask questions as appropriate.</li> </ul>

PI-ILT-NRC-2002S, 2020 ILT NRC SIMULATOR EVALUATION #2, REV. 0

SCENARIO TIME-LINE:			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
EVENT 1	<p><b>Booth Operator / Communicator:</b></p> <ol style="list-style-type: none"> <li>1. After the crew has assumed the duty, they will swap running EH Oil pumps per 1C23 and pre-job brief.</li> <li>2. If directed as the Outplant Operator to verify proper EH Oil Pump operation, then wait 2 minutes and report back that the pump is operating properly.</li> </ol>	BOP (N)	<p><b><u>1C23, UNIT 1 TURBINE CONTROL SYSTEM:</u></b></p> <ul style="list-style-type: none"> <li>• Station an operator at the EH Oil Skid.</li> <li>• If swapping from 11 EH Oil pump to 12 EH Oil pump, then perform the following:                             <ul style="list-style-type: none"> <li>○ Start 12 EH Oil Pump by placing CS-46385, 12 EH OIL PUMP, to START.</li> <li>○ Locally verify proper pump operation.</li> </ul> </li> <li>• Stop 11 EH Oil Pump by placing CS-46384, 11 EH OIL PUMP, in STOP.</li> </ul>

PI-ILT-NRC-2002S, 2020 ILT NRC SIMULATOR EVALUATION #2, REV. 0

SCENARIO TIME-LINE:			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
EVENT 2	<p><b>Booth Operator / Communicator:</b></p> <ol style="list-style-type: none"> <li>After the crew has swapped EH oil pumps, and/or at the discretion of the Lead Evaluator, enter: <b>Trigger 2, PRZR Press Cont. (Blue) Channel fails LOW.</b></li> <li>If contacted as I&amp;C to trip bistables, inform the crew two I&amp;C Technicians will be available in 45 minutes.</li> <li>If contacted as the Operations Management, acknowledge the report of the failure, and agree to make other SWI O-28 notifications to the NRC, Duty Station Manager, etc.</li> <li>If contacted as the FIN Team Supervisor, inform the crew that you will write a work order and assign an I&amp;C Supervisor to investigate.</li> </ol> <p><b>Plant Response:</b></p> <ol style="list-style-type: none"> <li>PRZR backup heaters energize.</li> <li>The following annunciators will alarm:                             <ol style="list-style-type: none"> <li>47012-0108, PRZR LO PRESS SI CHANNEL ALERT</li> <li>47012-0408, PRZR HI/LO PRESS CHANNEL ALERT</li> <li>47012-0504, REACTOR COOLANT SYSTEM OVERTEMP ΔT CHANNEL ALERT</li> <li>47012-0608, PRZR CONTROL HI PRESS OR BACKUP HTRS ON</li> <li>47013-0205, OTΔT ROD STOP TURBINE RUNBACK CHANNEL ALERT</li> </ol> </li> </ol>	ATC (I)	<p><b><u>C47012-0108, PRZR LO PRESS SI CHANNEL ALERT</u></b></p> <ul style="list-style-type: none"> <li>Check pressurizer pressure.</li> <li>Verify all heaters ON.</li> <li>Verify sprays CLOSED.</li> <li>If necessary, then control pressure in manual.</li> <li>Refer to 1C51.3.</li> </ul> <p><b><u>1C51.3, PRESSURIZER PRESSURE 1P-431 – LOW</u></b></p> <ul style="list-style-type: none"> <li><b>Place</b> PRZR Pressure controller in MANUAL and STABILIZE pressure.</li> <li><b>Select</b> position 2-1 (WHITE-RED) on PRZR Pressure Selector switch.</li> <li>When pressure is returned to normal with no deviation from setpoint, then return pressure control to auto.</li> <li>Ensure PRZR Pressure Recorder not selected to Blue channel.</li> </ul>



**PI-ILT-NRC-2002S, 2020 ILT NRC SIMULATOR EVALUATION #2, REV. 0**

<b>SCENARIO TIME-LINE:</b>			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
<b>EVENT 2 cont.</b>		SS (TS)	The SS will <b>enter</b> the following TS LCOs: <ul style="list-style-type: none"> <li>• <b>3.3.1 Condition A:</b> <ul style="list-style-type: none"> <li>○ Enter conditions referenced in Table 3.3.1-1 IMMEDIATELY.</li> </ul> </li> <li>• <b>3.3.1 Condition E:</b> <ul style="list-style-type: none"> <li>○ Place channel in trip in 6 HOURS</li> </ul> </li> </ul> OR <ul style="list-style-type: none"> <li>○ Be in MODE 3 in 12 HOURS</li> </ul> <li>• <b>3.3.1 Condition K:</b> <ul style="list-style-type: none"> <li>○ Place channel in trip in 6 HOURS.</li> </ul> </li> OR <ul style="list-style-type: none"> <li>○ Reduce thermal power to &lt;P-7 &amp; P-8 in 12 HOURS.</li> </ul> <li>• <b>3.3.2 Condition A:</b> <ul style="list-style-type: none"> <li>○ Enter conditions referenced in Table 3.3.2-1 IMMEDIATELY.</li> </ul> </li> <li>• <b>3.3.2 Condition D:</b> <ul style="list-style-type: none"> <li>○ Place channel in trip in 6 HOURS</li> </ul> </li> OR <ul style="list-style-type: none"> <li>○ Be in MODE 3 in 12 HOURS</li> <li style="padding-left: 20px;">AND</li> <li>○ Be in MODE 4 in 18 HOURS</li> </ul>

PI-ILT-NRC-2002S, 2020 ILT NRC SIMULATOR EVALUATION #2, REV. 0

SCENARIO TIME-LINE:			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
EVENT 3	<p><b>Booth Operator / Communicator:</b></p> <ol style="list-style-type: none"> <li>When the crew has returned pressure control to auto and addressed Tech Specs and/or at the discretion of the Lead Evaluator, then enter: <b>Trigger 3, D1 Local Alarm.</b></li> <li>If contacted as an outplant operator to investigate D1 local alarm, wait 2 minutes, then inform the crew that the common line between main and reserve air receiver is sheered, the line is unisolable, that starting air system pressure is at 0 PSIG, and you are responding per C55300-0101.</li> <li>When asked whether the rupture can be isolated, inform the crew the rupture CANNOT be isolated and the air compressor cannot keep up.</li> <li>If contacted as the outplant operator to attempt a crosstie between D1 &amp; D2, wait 2 minutes, then inform the crew that a crosstie valve is stuck in the closed position and crosstie is not available.</li> <li>If asked as a Unit 2 operator to perform SP 1118, then inform the crew Unit 2 will perform SP 1118 for Unit 1.</li> <li>If asked as an outplant operator to determine if D2 has a common cause failure, then wait 2 minutes and inform the crew that D2 starting air system pressure is at 195 PSIG and stable.</li> <li>If contacted as the Operations Management, acknowledge the report of the failure, and agree to make other SWI O-28 notifications to the NRC, Duty Station Manager, etc.</li> </ol> <p><b>Plant Response:</b></p> <ol style="list-style-type: none"> <li>Annunciator 47024-1203 will alarm.</li> </ol>		<p><b><u>C47024-1203, D1 EMERGENCY GENERATOR LOCAL ALARM:</u></b></p> <ul style="list-style-type: none"> <li><b>Dispatch</b> an operator to D1 Diesel Generator Control Room to respond to the alarm per C55300.</li> <li><b>Refer</b> to T.S. 3.8.1, as necessary.</li> </ul> <p><b><u>C55300-0101, STARTING AIR PRESSURE LOW:</u></b></p> <ul style="list-style-type: none"> <li>Investigate cause of low air pressure.</li> <li>Isolate leak or start air compressor.</li> <li>If unable to restore starting air system pressure, then consider using crosstie.</li> <li>If at least one air receiver cannot be maintained in-service and at &gt;175 psig, then the diesel generator does not meet its design requirements and operability must be determined. Refer to T.S. 3.8.1.</li> </ul> <p><i>1C20.7, Precaution 3.17 contains guidance on air receiver pressure (&gt;175 PSIG) and DG operability.</i></p>

**PI-ILT-NRC-2002S, 2020 ILT NRC SIMULATOR EVALUATION #2, REV. 0**

<b>SCENARIO TIME-LINE:</b>			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
<b>EVENT 3 cont.</b>		SS (TS)	The SS will <b>enter</b> the following TS LCOs: <ul style="list-style-type: none"> <li>• <b>3.8.1 Condition B:</b> <ul style="list-style-type: none"> <li>○ Perform SP 1118 in 1 HOUR</li> </ul> </li> </ul> AND <ul style="list-style-type: none"> <li>○ Declare required feature(s) supported by the inoperable DG inoperable when its required redundant feature(s) is inoperable within 4 HOURS of discovery.</li> </ul> AND <ul style="list-style-type: none"> <li>○ Determine OPERABLE DG is not inoperable due to a common cause failure in 24 HOURS.</li> </ul> AND <ul style="list-style-type: none"> <li>○ Restore DG to OPERABLE status in 14 DAYS.</li> </ul>





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SCENARIO TIME-LINE:			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
EVENTS 6, 7, & 8 cont.	<p>8. Throttle AFW flow as necessary using the following remotes:</p> <ul style="list-style-type: none"> <li>a. <b>FW136</b> – 12 AFW Pump to 11 SG (MV-32381)</li> <li>b. <b>FW137</b> – 12 AFW Pump to 12 SG (MV-32382)</li> </ul> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><b>NOTE:</b>  <i>It takes approximately 3 minutes for AFW MVs to fully close after the remote has been entered. Ensure MV shows closed on Thunderview prior to telling crew the valve is closed.</i></p> </div> <p><b>Plant Response:</b></p> <ol style="list-style-type: none"> <li>1. Reactor trip.</li> <li>2. Bus 15 locks out and Bus 16 de-energizes.</li> <li>3. D1 locks out &amp; D2 fails to start.</li> <li>4. Multiple annunciators associated with loss of power.</li> </ol> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><i>NOTE: Depending on crew timing, a RED PATH in Heat Sink CSF may come in due to turbine auto trip failure. This is NOT a failure. The crew will then restore AFW in 1FR-H.1 and return to procedure and step in effect.</i></p> </div>	<p>ATC (C)                  SS (C)                  CT 11</p>	<p><b><u>1ES-0.1, REACTOR TRIP RECOVERY</u></b></p> <ul style="list-style-type: none"> <li>• <b>Transfer</b> steam dump to STM PRESS mode.</li> <li>• <b>Check</b> RCS cold leg temps at 547°F.</li> <li>• <b>Check</b> CL header pressure greater than 75 psig.</li> <li>• <b>Notify</b> TBO to perform Att. J.</li> <li>• <b>Determine</b> AFW flow to SGs less than 200 gpm.                         <ul style="list-style-type: none"> <li>○ <b>Start</b> 12 MD AFW pump.</li> </ul> </li> <li>• Determine all control rods NOT fully inserted.</li> </ul> <p><b><u>1FR-H.1, RESPONSE TO LOSS OF SECONDARY HEAT SINK:</u></b></p> <ul style="list-style-type: none"> <li>• Determine secondary heat sink is required.</li> <li>• Determine bleed &amp; feed is NOT required.</li> <li>• Restore AFW to at least one SG.                         <ul style="list-style-type: none"> <li>○ <b>Start</b> 12 MD AFW pump.</li> </ul> </li> </ul>
END	<p>Once the crew has <b>restored power to Bus 16 and started 12 MD AFW pump</b>, and/or at the discretion of the Lead Evaluator, then place the simulator in FREEZE. Inform the crew that training has the duty.</p>		
	<p><b>Booth Operator:</b></p> <p><i>Collect SBT data per Attachment 1.</i></p>		

**PI-ILT-NRC-2002S, 2020 ILT NRC SIMULATOR EVALUATION #2, REV. 0**

**SIMULATOR INPUT SUMMARY**

@Time	Event	Action	Description
00:00:18		Insert override DI-46424P to True	11 TD AFWP OOS
00:00:18		Insert override DI-46424ST to False	11 TD AFWP OOS
00:00:18		Insert malfunction RP06	FAILURE OF MSIV'S TO ISOLATE
00:00:18		Insert malfunction FW34B	AUX FW PUMP #12 (MOTOR DRIVEN) FAILS TO START AUTOMATICALLY
00:00:18		Insert override LO-46314G to Off	11 TD AFWP OOS
00:00:18		Insert override LO-46315G to Off	11 TD AFWP OOS
00:00:18		Insert override LO-46127G to Off	11 TD AFWP OOS
00:00:18		Insert override LO-46128G to Off	11 TD AFWP OOS
00:00:18		Insert malfunction EG01A	GEN OUTPUT BRKR #8H16 FAILS TO OPEN AFTER TURB TRIP
00:00:18		Insert malfunction EG01B	GEN OUTPUT BRKR #8H17 FAILS TO OPEN AFTER TURB TRIP
	2	Insert malfunction RX202 to 1500.00000 on event 2	1 PRZR (CHNL III-BLU) P XMTR (1PT-431)
	3	Insert malfunction M47024:1203W to Cry_Wolf on event 3	D1 Local Alarm
	4	Insert malfunction TC07A on event 4	TURBINE CONTROL INTERCEPT VALVE CV-31167 (1A) FAILS CLOSED
	4	Insert malfunction TC07D on event 4	TURBINE CONTROL INTERCEPT VALVE CV-31173 (2B) FAILS CLOSED
	6	Insert malfunction ED14 on event 6	LOSS OF ALL OFFSITE AC POWER
	6	Insert malfunction TC11A on event 6	AUTO TURBINE TRIP FAILURE
	6	Insert malfunction ED09E on event 6	LOSS OF 4160V BUS #15
	6	Insert malfunction DG07B on event 6	D2 EMERGENCY AUTO START FAILURE
	6	Insert malfunction DG02A on event 6	D1 EMERGENCY DIESEL GENERATOR FAILS TO START
	6	Insert override DI-46921C to False on event 6	BKR 16-9 FAILS TO AUTO CLOSE
	6	Insert malfunction ED17B on event 6	FAILURE OF 52Z LOAD SEQUENCER RELAY - BUS 16
	16	Remove override DI-46921C to False on event 16	RESTORE BKR 16-9

**SIMULATOR EVENT SUMMARY**

Event ID	Description	Code
16	RESTORE BKR 16-9	HWZDGD6906(2)==1

## **Simulator Setup:**

### **Beginning of Day:**

- \_\_\_ 1. If it is the first scenario of the day, then perform a **shutdown** and **restart** of the floor PCs that are connected to the LAN.
- \_\_\_ 2. **Log in** on floor PCs with user ID & password: <pitrgsim>
- \_\_\_ 3. **Update** or **Verify** Control Room Placards:
  - a. NRC Code Placard:
    - i. NRC Current Authentication Code **D3RF**.
    - ii. Today's Date.
  - b. High Flux at Shutdown Alarm Setpoint placards: **5000 cps**.
  - c. Feedwater regulating valve position placard **set to current values**.
  - d. Recommended SG Blowdown flow **set to current values**.
- \_\_\_ 4. Verify **Current** Plant Status Magnetic Placards are in Place:
  - a. Blowdown 46470 "**SGB to CDSR**"
  - b. H2 in VCT Space
  - c. 11 BA TANK "Lined Up for Service"
  - d. 11 BA PUMP "Lined Up to 11 BA Tank"
  - e. 12 BA PUMP "Lined Up to 11 BA Tank"
  - f. CC to SFP MV-32115 "In Service"
  - g. CC to SFP MV-32117 "In Service"
- \_\_\_ 5. Current Plant **Pink Status Control Tags** in place:
  - a. CS-46540, 22 CC WTR PUMP
  - b. CS-46572, 121 SFP HX INLT
- \_\_\_ 6. Current Plant **Yellow Caution Tags** in place:
  - a. NONE
- \_\_\_ 7. Verify that copy machine and printers are loaded with **YELLOW BORDER** paper.
- \_\_\_ 8. Pens/Notepads/Markers available on the simulator.



## Simulator Setup:

**NOTE: The time between simulator reset and placing simulator in RUN should be minimized to reduce the difference between the ERCS time and actual time.**

- \_\_\_ 1. If this is the first scenario of the day, then **perform** Beginning of Day checklist on previous page.
- \_\_\_ 2. **Reset** the Simulator to **IC-252** and **go to** step 4.
- \_\_\_ 3. If IC-252 is not available, then **perform** the following:
  - a. **Reset** the Simulator to IC-11 and **place** in RUN.
  - b. **Place** CS-46424, 11 TD AFW Pump in PULLOUT.
  - c. **Place** CS-46438, 11 TD AFWP in MANUAL.
  - d. **Close** 11 MAIN STM TO 11 TD AFWP MV-32016 using CS-46127.
  - e. **Close** 12 MAIN STM TO 11 TD AFWP MV-32017 using CS-46128.
  - f. **Close** MV-32238, 11 TD AFWP TO 11 STM GEN, using CS-46314.
  - g. **Close** MV-32239, 11 TD AFWP TO 12 STM GEN, using CS-46315.
- \_\_\_ 4. **Place** the simulator in RUN.
- \_\_\_ 5. If available, **run** schedule file **PI-ILT-NRC-2002S.sch** as follows:
  - a. **Locate** schedule file.
  - b. **Open** schedule file by double clicking it.
  - c. **Run** the schedule file by pressing the "Stopped" button on the toolbar.
  - d. **Verify** the schedule file is running.
- \_\_\_ 6. If schedule file is NOT available, then **insert** malfunctions, remotes, and overrides, as specified by the Simulator Input Summary.
- \_\_\_ 7. If available, **run** event file **PI-ILT-NRC-2002S.evt** as follows:
  - a. **Locate** event file.
  - b. **Open** event file by double clicking file.
- \_\_\_ 8. If event file is NOT available, then enter event codes as specified by Simulator Event Summary.
- \_\_\_ 9. If desired, **start** Scenario Based Testing Data Collection Program per Attachment 1.
- \_\_\_ 10. **Complete** the "Simulator Setup Checklist" on next page

## SIMULATOR SETUP CHECKLIST

### Pre-Scenario Checklist:

\_\_\_\_\_ Simulator Status:

- |                       |  |
|-----------------------|--|
| ___1. "Training Load" | ___4. Step counters: NOT USED                |
| ___2. Alarm sound ON  | ___5. Simulator running in IC-252 or IC-11.  |
| ___3. Speed: REAL     | ___6. Steps 1 – 9 on previous page complete. |

\_\_\_\_\_ **Delete** memory on Yokogawa Model DX1000 recorders by cycling Recorder Power.

\_\_\_\_\_ Verify Schedule File/Summary matches Simulator Input Summary page in the SEG.

\_\_\_\_\_ Verify that control rod step counters on C panel and ERCS RBU **CBD @ 218**.

\_\_\_\_\_ Boric Acid/RMU integrators set to: **BA: 0, RMU: 20**, and reset.

\_\_\_\_\_ **EOC ΔI** sheet displayed on C panel.

\_\_\_\_\_ **EOC Reactivity Briefing** sheet available at Reactor Operator Desk.

\_\_\_\_\_ Verify Boric Acid and Reactor Makeup Controllers are set properly:

- \_\_\_1. 1HC-110: **2.1%**
- \_\_\_2. 1HC-111: **44.7%**

\_\_\_\_\_ **Update or Verify** SEG specific Control Board Placards:

- \_\_\_1. CVCS panel placard:
  - a. RCS boron – **102 ppm**.
  - b. RCS H<sub>2</sub> – **45 cc/kg**.
  - c. Turbine Reference Value and Mode – **matched with DEHC**.
- \_\_\_2. Shift Reactivity Guidance placard:
  - a. BA: **0.3 gallons**
  - b. RMU: **67 gallons**
  - c. Dilutions: **20 gal RMU, 1-2 times per shift**
- \_\_\_3. EAL Classification Placard **CLEANED** and **placed** on side of SS desk.
- \_\_\_4. LCO Timer **CLEANED**.

\_\_\_\_\_ SEG specific **Magnetic Placards** in place:

- \_\_\_1. NONE

\_\_\_\_\_ SEG specific or Protected Equipment **Pink Status Control Tags** in place:

- \_\_\_1. CS-46425, 12 MD AFWP

\_\_\_\_\_ SEG specific or Out of Service **Yellow Caution Tags** are in place:

- |   |  |
|---|--|
| ___1. CS-46424, 11 TD AFWP                            | ___4. CS-46314, 11 TD AFWP TO 11 STM GEN<br>MV-32238 |
| ___2. CS-46127, 11 MAIN STM TO 11 TD AFWP<br>MV-32016 | ___5. CS-46315, 11 TD AFWP TO 12 STM GEN<br>MV-32239 |
| ___3. CS-46128, 12 MAIN STM TO 11 TD AFWP<br>MV-32017 |  |

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Retention: Life of Plant

Retain in: Training Program File

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

**Pre-Scenario Checklist continued:**

\_\_\_\_\_ ERCS driven recorders are on-scale (RCS temperature scaled **555° F to 565° F**).

\_\_\_\_\_ ERCS alarm screen operating and alarms **reset**.

\_\_\_\_\_ All ERCS terminals operating and set as follows:

CONF	<b>VARs</b>	R02	<b>Alarm Summary Page</b>
CONE1	<b>Group OP31_U1</b>	R03	<b>AFD</b>
CONC	<b>SAS (XS11)</b>	R04	<b>TPM</b>
CONG1	<b>Group QP CCData</b>	R05	<b>QP LOADFOLL</b>
ERCS-R01	<b>Group RADMON_U1</b>	R06	<b>Alarm Summary Page</b>

\_\_\_\_\_ ERCS single point displays:

CONB	<b>1T0499A</b>	<b>1U1613A</b>
CONE2	<b>1Q0340A</b>	<b>1V4501A</b>

\_\_\_\_\_ ERCS TPM set (**Calorimetric - Auto Scaling - VENT**).

\_\_\_\_\_ Set Turbine Control HMI Displays as follows:

- \_\_\_ 1. U1 E-H Turb Cont STA 2 (48087) to **Control Valve Overview**
- \_\_\_ 2. U1 Turb Aux Cont (48088) to **Turb Overview**
- \_\_\_ 3. U1 E-H Turb Cont STA 1 (48086) to **Off Line Control**
- \_\_\_ 4. DEHC alarms **cleared**.

\_\_\_\_\_ Verify DEHC **VPL set ~0.1 to 0.3 above** current valve position (not on limiter).

\_\_\_\_\_ YELLOW turnover sheets 1-9 available.

\_\_\_\_\_ Electronic PINGP 577 forms and TABS **closed** on both LAN connected PCs.

\_\_\_\_\_ Board-mounted EAL Tables are **cleaned**.

\_\_\_\_\_ Headsets turned on as necessary.

\_\_\_\_\_ **Perform** one of the following:

- **Clear** web browser history and recent procedures in pdf.
- **Complete** post-scenario checklist.

\_\_\_\_\_ Procedure checklist **completed**. See following page.

\_\_\_\_\_ Peer Check performed for simulator setup.

**PROCEDURE CHECKLIST:**

**NOTE:** The following procedures will be used during this session. Verify the procedures are free of place keeping marks before starting the session and after the session are complete.

Before 1 <sup>st</sup> / 2 <sup>nd</sup>	After 1 <sup>st</sup> / 2 <sup>nd</sup>	
/	/	1C1.4 AOP1, RAPID POWER REDUCTION – UNIT 1
/	/	1C23, UNIT 1 TURBINE CONTROL SYSTEM
/	/	1C23 AOP 2, MALFUNCTION OF TURBINE EH CONTROL SYSTEM
/	/	1C51.3, 1P-431 PRESSURIZER PRESSURE - LOW
/	/	C47012-0108, PRZR LO PRESS SI CHANNEL ALERT
/	/	C47024-1203, D1 EMERGENCY GENERATOR LOCAL ALARM
/	/	1E-0, REACTOR TRIP OR SAFETY INJECTION
/	/	1ECA-0.0, LOSS OF ALL SAFEGUARDS AC POWER
/	/	1ES-0.1, REACTOR TRIP RECOVERY
/	/	1E-CAS, UNIT 1 CONTINUOUS ACTION & INFO PAGE SUMMARY
/	/	EAL Board
/	/	1FR-H.1, RESPONSE TO LOSS OF SECONDARY HEAT SINK
/	/	LAMINATE COPY OF 1C5, SECTION 5.5
/	/	LAMINATE COPY OF 1C12.5, SECTIONS 5.8, 5.9, & 5.10
/	/	REACTIVITY BRIEFING SHEET - MOC
/	/	SWI O-28, NOTIFICATION OF OPS MNGR & NRC RESIDENT INSPECTOR
/	/	T.S. LCO 3.3.1
/	/	T.S. LCO BASES 3.3.1
/	/	T.S. LCO 3.3.2
/	/	T.S. LCO BASES 3.3.2
/	/	T.S. LCO 3.8.1
/	/	T.S. LCO 3.8.1

**Post-Scenario Checklist**

- \_\_\_\_\_ Clear web browser history and recent procedures in pdf.
- \_\_\_\_\_ Computer generated PINGP 577 cleared.
- \_\_\_\_\_ Procedure checklist completed. See previous page.
- \_\_\_\_\_ Remove Pink Status Control Tags from the following equipment:  
 \_\_\_ 1. CS-46425, 12 MD AFWP
- \_\_\_\_\_ Magnetic placards removed:  
 \_\_\_ 1. NONE
- \_\_\_\_\_ Remove Yellow Caution Tags from the following equipment:  
 \_\_\_ 1. CS-46424, 11 TD AFWP  
 \_\_\_ 2. CS-46127, 11 MAIN STM TO 11 TD AFWP MV-32016  
 \_\_\_ 3. CS-46128, 12 MAIN STM TO 11 TD AFWP MV-32017  
 \_\_\_ 4. CS-46314, 11 TD AFWP TO 11 STM GEN MV-32238  
 \_\_\_ 5. CS-46315, 11 TD AFWP TO 12 STM GEN MV-32239
- \_\_\_\_\_ Board-mounted EAL Table is cleaned.
- \_\_\_\_\_ All books, note pads, and calculators put away.

**End Of Day Checklist**

- \_\_\_\_\_ Signs/placards removed and put away unless normal simulator configuration.
- \_\_\_\_\_ If desired, floor PCs logged off if simulator will not be used again that day.
- \_\_\_\_\_ Instructor station returned to normal with all books, paper, and etc. put away.
- \_\_\_\_\_ Headsets turned off and put away if simulator will not be used again that day.
- \_\_\_\_\_ Simulator reset to IC-10 unless another IC will be used for further training.
- \_\_\_\_\_ Simulator placed in DORT if simulator will not be used again that day.
- \_\_\_\_\_ Verify the following placards are erased:
  - CVCS panel
  - Shift Reactivity Guidance
  - LCO Timer
  - NRC Authentication Code

RETENTION: 7 Days

**UNIT 1 LPEO / PEO TURNOVER LOG**

DATE: 8/18/2020

DAY/NIGHT SHIFT: Day

CAT 1 VENT OPENINGS: 0 ft<sup>2</sup>

SYSTEM CONDITION: GREEN

<b>SAFEGUARDS EQUIPMENT OOS/TECH SPEC REQUIRED ACTION STATEMENTS</b>				
1. 11 TD AFW PUMP is Out of Service for corrective maintenance. <ul style="list-style-type: none"> <li>• T.S. LCO 3.7.5 Condition B has been entered with 48 hours remaining.</li> <li>• 11 TD AFW Pump is expected to be returned to service in 24 hours.</li> </ul>				
<b>PROTECTED EQUIPMENT</b>				
12 MD AFW PUMP SFP COOLING				
<b>RAD MONITORS OOS</b>			<b>ANNUNCIATORS OOS</b>	
NONE			NONE	
<b>OUTSTANDING SP'S</b>			<b>FIRE DET / PROT EQP IMPAIRMENTS</b>	
NONE			NONE	
<b>OTHER EQUIPMENT OOS / STATUS</b>				
Exposure: EOC	Pressure: 2235 PSIG	Unit 2 is at 100% power.		
Power: 100%	Xenon: Equilibrium			
Boron (CB): 102 PPM	Rods: CBD @ 218			
T <sub>AVG</sub> : 560°F	Generator: 582 MW			
<b>MAJOR EQUIPMENT REPAIRED / RETURNED TO SERVICE</b>				
NONE				
<b>OPERATIONAL PLANS FOR COMING SHIFT</b>				
<ul style="list-style-type: none"> <li>• Prior to entering the simulator, perform a Pre-Job Brief for the following:                             <ul style="list-style-type: none"> <li>○ Swap EH oil pumps per 1C23.</li> </ul> </li> <li>• After taking the duty, swap running EH oil pumps per 1C23 and pre-job brief.</li> </ul>				
<b>NEW PROCEDURES / INSTRUCTIONS</b>				

## Simulator Scenario Development Checklist

Mark with an X Yes or No for any of the following. If the answer is No, include justification for the no answer or the corrective action needed to correct the discrepancy after the item.

- |  |                 |                |
|--|-----------------|----------------|
| 1. The scenario contains objectives for the desired tasks and relevant human performance tools.  | Yes<br><b>X</b> | No             |
| 2. The scenario identifies key parameter response, expected alarms, and automatic actions associated with the induced perturbations.   | Yes<br><b>X</b> | No             |
| 3. The scenario content adequately addresses the desired tasks, through simulator performance, instructor-led training freezes, or both.   | Yes<br><b>X</b> | No             |
| 4. Plant PRA initiating events, important equipment, and important tasks are identified.   | Yes<br><b>X</b> | No             |
| 5. Turnover information includes a Daily At Power or Shutdown Safety Risk Assessment. <i>Justification: PRA software not installed on Sim computers.</i>   | Yes             | No<br><b>X</b> |
| 6. The scenario contains procedurally driven success paths. Procedural discrepancies are identified and corrected before training is given.  | Yes<br><b>X</b> | No             |
| 7. The scenario guide includes responses for all anticipated communications to simulated personnel outside the Control Room, based on procedural guidance and standard operating practices. Include estimated completion times and/or notes for use of time compression. | Yes<br><b>X</b> | No             |
| 8. The scenario includes related industry experience. SOER, SER and similar OE recommendations are clearly identified and fully addressed.*  | Yes             | No<br><b>X</b> |
| 9. The scenario guide incorporates verification of Operator Fundamental application.*  | Yes             | No<br><b>X</b> |
| 10. Training elements and specific human performance elements are addressed in the scenario critique guide to be used by the critique facilitator. The critique guide includes standards for expected performance.*  | Yes             | No<br><b>X</b> |
| 11. For evaluations, it has been verified that without operator action the critical tasks will be failed.  | Yes<br><b>X</b> | No             |

Developer and Reviewer: Once checklist is completed and deficiencies are corrected, sign the cover page.

\* For evaluations these items may be marked NO without justification.

### Simulator Scenario Validation Checklist

Mark with an X Yes or No for any of the following. If the answer is No, include an explanation after the item.

- |  |                 |    |
|--|-----------------|----|
| 1. The desired initial conditions agreed with the reference plant with respect to reactor status, plant configuration, and system operation.   | Yes<br><b>X</b> | No |
| 2. The simulator operated in real time during conduct of validation.   | Yes<br><b>X</b> | No |
| 3. The simulator demonstrated expected plant response to operator input and to normal, transient, and accident conditions.   | Yes<br><b>X</b> | No |
| 4. The simulator permitted use of the reference plant's procedures. The scenario was completed without procedural exceptions, simulator performance exceptions, or deviation from the scenario sequence. | Yes<br><b>X</b> | No |
| 5. The simulator did not "fail to cause" or "unexpectedly cause" any first principle alarm or primary automatic action.  | Yes<br><b>X</b> | No |
| 6. Observable changes in parameters relevant to the scenario corresponded in trend and direction to reference plant's expected response.   | Yes<br><b>X</b> | No |
| 7. All malfunctions and other instructor interface items were functional and demonstrated the expected reference plant's response to the initiating cause.   | Yes<br><b>X</b> | No |
| 8. All malfunctions and other instructor interface items were initiated in the same sequence described within the simulator scenario.  | Yes<br><b>X</b> | No |
| 9. The scenario satisfies the learning or examination objectives without any significant simulator performance issues, or deviations from the approved scenario sequence.                                | Yes<br><b>X</b> | No |
| 10. Simulator fidelity has been demonstrated to be adequate for this scenario.   | Yes<br><b>X</b> | No |

Discrepancies noted (Check "none" or list items found)  None

SMAR = Simulator Action Request

SMAR: \_\_\_\_\_ SMAR: \_\_\_\_\_ SMAR: \_\_\_\_\_ SMAR: \_\_\_\_\_

Retention: Life of Plant

Retain in: Training Program File

Form retained in accordance with record retention schedule identified in FP-G-RM-01.



**PI-ILT-NRC-2002S, 2020 ILT NRC SIMULATOR EVALUATION #2, REV. 0**

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Validator: Sign the cover page only after noted discrepancies are corrected or compensatory actions are taken to ensure quality training.

<b>Validation Personnel</b>		
<b>Name</b>	<b>Job Title / Qualification</b>	<b>Validation Position</b>
VELASCO	SRO	SS
HELLAND	RO	BOP
LODERMEIER	RO	ATC

**ATTACHMENT 1****SBT EXAM DATA COLLECTION****• BEFORE SCENARIO**

- START menu
- SBT Report
- File
- OPEN
- Select file type “.tis”
  - (FILE LOCATION: sim data (X:) / TRex\_PI / LIGHTNING / SBT
- Select SBT.tis
- OPEN or double click
- Check TAM log & verify no cycling switches
- Run scenario

**• AFTER SCENARIO**

- FREEZE on Simulator
- Click GREEN arrow to generate report
- Enter the following:
  - (NAME is not required)
  - Test Title (2002S ILT NRC SBT Group x)
  - Report Name (same as test title)
- Click the “...” button to right of Report Name field.
- Select location where file is to be saved (on Locker G3 flash drive)
- Enter file name (same as report name) & SAVE
- Click GENERATE, verify file location, and close “html” file
- START menu
- COMPARE IT
- Click “+” ADD
- Select “.csv” file from previously saved location
- OPEN or double click
- Click GREEN “COMPARE” button
- Wait for spreadsheet to populate and then save in desired location
- Close spreadsheet, COMPARE IT, and SBT Report
- Verify all 3 files are saved in proper location

	<h2 style="margin: 0;">SIMULATOR EXERCISE GUIDE (SEG)</h2>
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**SITE: PRAIRIE ISLAND**

**SEG # PI-ILT-NRC-2003S**

**SEG TITLE: 2020 ILT NRC SIMULATOR EVALUATION #3**

**REV. # 0**

**PROGRAM: INITIAL LICENSE OPERATOR TRAINING #: FL-ILT**

**COURSE: INITIAL LICENSE OPERATOR TRAINING #: FL-ILT**

**TOTAL TIME: 2.0 HOURS**

Additional site-specific signatures may be added as desired.

<b>Developed by:</b>	<b>Fredrick Collins</b> <i>Instructor</i>	<i>Date</i>
<b>Reviewed by:</b>	<b>Justin Hasner</b> <i>Instructor</i> <i>(Simulator Scenario Development Checklist.)</i>	<i>Date</i>
<b>Validated by:</b>	<b>Justin Hasner</b> <i>Validation Lead Instructor</i> <i>(Simulator Scenario Validation Checklist.)</i>	<i>Date</i>
<b>Approved by:</b>	 <i>Training Supervision</i>	<i>Date</i>

## Guide Requirements

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**Evaluation Objectives:**

Evaluate the crew's ability to:

1. Swap running RMU pumps per C13.1.

Evaluate the crew's ability to diagnose and respond to:

2. 1<sup>st</sup> Stage Pressure Instrument fails low per 1C51.3.
  3. Restore T<sub>AVG</sub> to T<sub>REF</sub> per 1C51.3 and.
  4. PRZR Level White Channel fails LOW per 1C51.2 & 1C12.1.
  5. Steam Generator Tube Rupture per 1E-3.
  6. RHR pumps fail to start on SI per 1E-0.
  7. SI to Cooling Water Relay fails to actuate per 1E-0.
- 

**Training Resources:**

1. Full Scope Simulator
  2. NRC Evaluation Team
  3. Booth Operator (Backup Communicator)
  4. Primary Communicator
- 

**Related PRA Information:**

**Initiating Event with Core Damage Frequency:**  
SGTR – 7.6%

**Important Components:**

11 SI PMP  
11 RH PMP  
12 RH PMP

**Important Operator Actions with Task Number:**

CRO 301 004 06 01 000 - SGTR

## QUANTITATIVE ATTRIBUTES

### **Malfunctions:**

#### *Before EOP Entry:*

1. First Stage Pressure 1PT-485 Fails Low
2. 1L-427, PRZR Level White Channel Fails Low

#### *After EOP Entry:*

1. 11 & 12 RHR Pumps Fail to Auto start on SI
2. SI to Cooling Water Relay Fails to Actuate

### **Abnormal Events:**

1. Instrument Failure Guide
2. Uncontrolled Rod Motion
3. Letdown Restoration

### **Major Transients:**

1. Steam Generator Tube Rupture

### **Critical Tasks:**

1. PI-CT-20: Establish at least 250  $\text{PSID}$  between the ruptured SG and intact SG prior to depressurizing the RCS.
2. PI-CT-21: Stop the RCS cooldown before an ORANGE or RED path in Integrity CSF occurs.
3. PI-CT-22: Depressurize the RCS to meet SI termination criteria before overfilling the ruptured Steam Generator.
4. PI-CT-23: Secure feed flow to the ruptured Steam Generator and terminate Safety Injection before overfilling the ruptured Steam Generator.

**PI-ILT-NRC-2003S, 2020 ILT NRC SIMULATOR EVALUATION #3, REV. 0****CRITICAL TASK SHEET**

Number:	PI-CT-20
Critical Task:	Establish at least 250 PSID between the ruptured SG and intact SG prior to depressurizing the RCS.
Safety Significance:	Securing steam flow from the ruptured Steam Generator and cooling down the RCS with the intact Steam Generator establishes a pressure differential between the ruptured and non-ruptured Steam Generators. This allows RCS depressurization to minimize primary-to-secondary leakage.
Plant Conditions:	<ul style="list-style-type: none"> <li>• Reactor tripped.</li> <li>• Safety Injection actuated.</li> <li>• SGTR from only one Steam Generator.</li> <li>• Non-ruptured Steam Generator remains intact.</li> <li>• LOCA to containment not occurring.</li> <li>• Steam flow from ruptured Steam Generator is capable of being secured.</li> </ul>
Cues:	<ul style="list-style-type: none"> <li>• Secondary radiation levels are NOT normal.</li> <li>• Steam Generator NR level increasing in an uncontrolled manner.</li> </ul>
Performance Indicator:	<ul style="list-style-type: none"> <li>• Performing the following as necessary to establish at least a 250 PSID between ruptured SG and intact SG: <ul style="list-style-type: none"> <li>○ Securing and/or reducing steam loads from the ruptured SG.</li> <li>○ If necessary, cooling down the RCS by: <ul style="list-style-type: none"> <li>▪ Dumping steam to the condenser from the intact SG ONLY.</li> <li>▪ Manually opening the intact SG PORV ONLY.</li> </ul> </li> </ul> </li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>• If Attachment B is used to secure steam flow from the Steam Generator instead of closing the MSIV and Bypass, then RCS cooldown using steam dumps would most likely constitute a failure.</li> </ul>
Feedback:	<ul style="list-style-type: none"> <li>• Stable or increasing pressure in the ruptured SG.</li> <li>• Ruptured Steam Generator pressure is at least 250 PSIG above intact Steam Generator pressure.</li> </ul>

**PI-ILT-NRC-2003S, 2020 ILT NRC SIMULATOR EVALUATION #3, REV. 0**

**CRITICAL TASK SHEET**

Number:	PI-CT-21
Critical Task:	Stop the RCS cooldown before an ORANGE or RED path in Integrity CSF occurs.
Safety Significance:	Excessive rate of RCS cooldown creates large thermal stresses on the reactor vessel. Large thermal stresses on the vessel lead to initiation and growth of a small flaw into a larger crack. Growth or extension of such a flaw leads to a loss of vessel integrity.
Plant Conditions:	<ul style="list-style-type: none"> <li>• LOCA to containment not occurring.</li> <li>• SGTR in progress.</li> <li>• An operator initiated RCS cooldown in progress.</li> </ul>
Cues:	<ul style="list-style-type: none"> <li>• RCS cooldown in progress from one of the following:                             <ul style="list-style-type: none"> <li>○ Steam Dump to condenser.</li> <li>○ SG PORV</li> </ul> </li> <li>• RCS temperature lowering.</li> </ul>
Performance Indicator:	<ul style="list-style-type: none"> <li>• Securing the cool down by manipulating one of the following:</li> <li>• Steam Dump controller.</li> <li>• SG PORV controller.</li> </ul>
Feedback:	<ul style="list-style-type: none"> <li>• RCS temperature stops lowering.</li> </ul>

**PI-ILT-NRC-2003S, 2020 ILT NRC SIMULATOR EVALUATION #3, REV. 0**

**CRITICAL TASK SHEET**

Number:	PI-CT-22
Critical Task:	Depressurize the RCS to meet SI termination criteria before overfilling the ruptured Steam Generator.
Safety Significance:	A SGTR allows radioactive RCS inventory to leak into the SG. As a result, the SG inventory, radioactivity, and pressure increase. If the primary-to-secondary leakage is not stopped, the SG will overfill causing water release through the SG PORV or SG Safety. This can cause an unisolable fault from the ruptured SG and significantly increase the radioactive release to the public.
Plant Conditions:	<ul style="list-style-type: none"> <li>• SGTR from only one Steam Generator.</li> <li>• Ruptured Steam Generator pressure is at least 250 PSIG above intact Steam Generator pressure.</li> </ul>
Cues:	<ul style="list-style-type: none"> <li>• Stable or increasing pressure in the ruptured SG.</li> <li>• Ruptured Steam Generator pressure is at least 250 PSIG above intact Steam Generator pressure.</li> </ul>
Performance Indicator:	<ul style="list-style-type: none"> <li>• Pressurizer Spray valve(s) or Pressurizer PORV(s) opened and closed as necessary to establish SI termination criteria prior to overfilling the Steam Generator.</li> <li>• The Steam Generator is considered overfilled if BOTH conditions below exist:                         <ul style="list-style-type: none"> <li>○ 30 minutes has elapsed since indications of a SGTR were available.</li> <li>○ Ruptured SG Narrow Range Level has reached 100%.</li> </ul> </li> </ul>
Feedback:	<p>RCS depressurization is stopped when one of the following is met:</p> <ul style="list-style-type: none"> <li>• RCS sub-cooling is greater than 21°F [40°F].</li> <li>• Secondary Heat Sink available:                         <ul style="list-style-type: none"> <li>○ Total feed flow to intact SG greater than 200 GPM.</li> <li style="text-align: center;">-OR-</li> <li>○ Intact SG NR level greater than 7% [WR 50%].</li> </ul> </li> <li>• RCS pressure stable or increasing.</li> <li>• Pressurizer level greater than 8% [27%]</li> </ul>



**PI-ILT-NRC-2003S, 2020 ILT NRC SIMULATOR EVALUATION #3, REV. 0**

**CRITICAL TASK SHEET**

Number:	PI-CT-23
Critical Task:	Secure feed flow to the ruptured Steam Generator and terminate Safety Injection before overfilling the ruptured Steam Generator.
Safety Significance:	A SGTR allows radioactive RCS inventory to leak into the SG. As a result, the SG inventory, radioactivity, and pressure increase. If the primary-to-secondary leakage is not stopped, the SG will overfill causing water release through the SG PORV or SG Safety. This can cause an un-isolable fault from the ruptured SG and significantly increase the radioactive release to the public.
Plant Conditions:	<ul style="list-style-type: none"> <li>• SGTR from only one Steam Generator.</li> </ul>
Cues:	<ul style="list-style-type: none"> <li>• Feed flow is established to the ruptured Steam Generator.</li> <li>• SI termination criteria are met.</li> </ul>
Performance Indicator:	<ul style="list-style-type: none"> <li>• Close/Secure the following valves/pumps aligned to the ruptured Steam Generator (as necessary):                             <ul style="list-style-type: none"> <li>○ AFW Pump Discharge Valve(s)</li> <li>○ AFW Pump(s)</li> <li>○ Main and Bypass Feed Water valve(s)</li> <li>○ MFW Pump(s)</li> </ul> </li> <li>• Stopping all running SI Pumps</li> <li>• The Steam Generator is considered overfilled if BOTH conditions below exist:</li> <li>• 30 minutes has elapsed since indications of a SGTR were available.</li> <li>• Ruptured SG Narrow Range Level has reached 100%.</li> </ul>
Feedback:	<ul style="list-style-type: none"> <li>• Feed flow to the ruptured Steam Generator is secured.</li> <li>• Safety Injection flow is secured.</li> </ul>

**SCENARIO OVERVIEW:****INITIAL CONDITIONS:**

Exposure: EOC  
 Power: 60%  
 Boron: (CB): 230 PPM  
 T<sub>AVG</sub>: 554°F  
 Pressure: 2235 PSIG  
 Xenon: Equilibrium  
 Rods: CBD @ 178  
 Generator: 338 MW

**EQUIPMENT OOS**

11 SI PUMP

**SEQUENCE OF EVENTS:****Event 1: Swap Running RMU Pumps**

- 11 RMU pump is running.
- The crew will start 12 RMU pump and stop 11 RMU pump per C13.1.

**Event 2: 1PT-485 1<sup>st</sup> Stage Pressure Fails Low**

- Rods will automatically step in.
- The crew will place rod control in manual per 1C5 AOP1.
- The crew will place steam dump in steam pressure mode per 1C51.2 Instrument failure guide.
- The crew will enter T.S. LCO 3.3.1 Conditions A & R and TRM 3.3.4 Condition A.

**Event 3: Restore T<sub>AVG</sub> to T<sub>REF</sub>**

- The crew will withdraw Control Bank D rods to restore T<sub>AVE</sub> to T<sub>REF</sub> per 1C51.1.

**Event 4: 1L-427, PRZR Level White Channel Fails Low**

- PRZR Level White (Interlock) Channel 1L-427 will fail low.
- Letdown will isolate.
- The crew will place PRZR level control in RED-BLUE (1-3).
- The crew will restore letdown per 1C12.1.
- The crew will enter TS LCO 3.3.1 Conditions A & K.

**Event 5: 11 Steam Generator Tube Rupture**

- Pressurizer level and RCS pressure will lower rapidly.
- 11 SG level will rise.
- The crew will trip the reactor and actuate safety injection per 1E-0.
- The crew will isolate 11 SG, cooldown & depressurize the RCS, and stop 12 SI pump per 1E-3.

**Event 6: 11 and 12 RHR Pumps Fail to Start Automatically**

- The crew will manually start both RHR pumps per 1E-0 Att. L.

**Event 7: SI to Cooling Water Relay Failure**

- The crew will manually align CLG WTR components per 1E-0 Att. L.

**PI-ILT-NRC-2003S, 2020 ILT NRC SIMULATOR EVALUATION #3, REV. 0**

<b>SCENARIO TIME-LINE:</b>			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
	<p><b>SIMULATOR PRE-BRIEF:</b></p> <ul style="list-style-type: none"> <li>• The Simulator Pre-Brief is conducted prior to the crew entering the simulator.</li> </ul> <p><b>COMPLETE TURNOVER:</b></p> <ul style="list-style-type: none"> <li>• "UNIT 1 LPEO / PEO TURNOVER LOG."</li> <li>• Verify crew performs walk down of control boards and the reviews turnover checklists.</li> </ul>	CREW	<p>Review the following with the off-going operator:</p> <ul style="list-style-type: none"> <li>• "Unit 1 LPEO / PEO Turnover Log"</li> <li>• Walk-down the control boards and ask questions as appropriate.</li> </ul>

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SCENARIO TIME-LINE:			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
EVENT 1	<p><b>Booth Operator / Communicator:</b></p> <ol style="list-style-type: none"> <li>1. After the crew has assumed the duty, they will swap running RMU pumps per C13.1 and pre-job brief.</li> <li>2. If directed as the Outplant Operator to verify 12 RMU tank is not aligned for degasification, then wait 2 minutes and report back that 22 RMU tank is currently aligned for degas.</li> </ol>	BOP (N)	<p><b><u>C13.1, REACTOR MAKEUP SYSTEM:</u></b></p> <ul style="list-style-type: none"> <li>• <b>Verify</b> the standby reactor makeup tank is NOT aligned for degasification.</li> <li>• <b>Start</b> the oncoming (12) RMU pump using CS-46117, 12 RX M-U PMP START/STOP CS.</li> <li>• <b>Stop</b> the off-going (11) RMU pump using CS-46116, 11 RX M-U PMP START/STOP CS.</li> <li>• <b>Check</b> 47022-0601, UNIT1 REACTOR MAKEUP LO PRESS, is NOT LIT.</li> </ul>



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<b>SCENARIO TIME-LINE:</b>			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
<b>EVENTS 2 &amp; 3 cont.</b>		SS (TS)	The SS will <b>enter</b> the following TS LCOs: <ul style="list-style-type: none"> <li>• <b>3.3.1 Condition A</b> <ul style="list-style-type: none"> <li>○ Enter Condition referenced in Table 3.3.1-1 for the channel(s) or train(s) IMMEDIATELY.</li> </ul> </li> <li>• <b>3.3.1 Condition R</b> <ul style="list-style-type: none"> <li>○ Verify P-7 is in required state in 1 hour.</li> <li style="padding-left: 20px;"><u>OR</u></li> <li>○ Be in MODE 2 in 7 hours.</li> </ul> </li> <li>• <b>TRM 3.3.4 Condition A</b> <ul style="list-style-type: none"> <li>○ Initiate actions to restore to OPERABLE immediately.</li> </ul> </li> <li>• <b>TRM 3.3.4 Table 3.3.4-1 Function 3</b> <ul style="list-style-type: none"> <li>○ Perform channel check every 12 hours.</li> </ul> </li> </ul>

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SCENARIO TIME-LINE:			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
EVENT 4	<p><b>Booth Operator / Communicator:</b></p> <ol style="list-style-type: none"> <li>After the crew has addressed tech specs and restored <math>T_{AVG}</math> to <math>T_{REF}</math>, and/or at the discretion of the Lead Evaluator, enter:</li> </ol> <p><b>Trigger 4, PRZR Level White Channel Fails Low</b></p> <ol style="list-style-type: none"> <li>If contacted as I&amp;C to trip bistables, inform the crew two I&amp;C Technicians will be available in 45 minutes.</li> <li>If contacted as FIN team to write a CAP and WR acknowledge the request.</li> <li>If contacted as the Operations Management, acknowledge the report of the failure, and agree to make other notifications to the NRC, Duty Station Manager, etc. as asked.</li> <li>If contacted as Duty RP, then acknowledge report of letdown being secured.</li> <li>If contacted as Duty RP, then acknowledge report of letdown being restored.</li> </ol> <p><b>Plant Response:</b></p> <ol style="list-style-type: none"> <li>Letdown automatically secures.</li> <li>PRZR heaters de-energize.</li> <li>PRZR level rises.</li> <li>Annunciator 47012-0607, PRZR LO-LO LVL HEATERS OFF AND LETDOWN SECURED will alarm.</li> </ol> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>Note: The crew may leave PRZR level control in manual until level has returned to the normal band. It is not necessary to wait before moving on to the next event.</i></p> </div>	<p>ATC (I) BOP (I)</p>	<p><b><u>C47012-0607, PRZR LO-LO LVL HEATERS OFF AND LETDOWN SECURED:</u></b></p> <ul style="list-style-type: none"> <li><b>Determine</b> PRZR level is slowly rising.</li> <li><b>Verify</b> all PRZR heaters are off.</li> <li><b>Verify</b> Letdown is isolated.</li> <li><b>Place</b> charging pump speed control in manual and control pressurizer level.</li> <li><b>Refer</b> to 1C51.2.</li> </ul> <p><b><u>1C51.2, PRESSURIZER LEVEL 1L-427 – LOW:</u></b></p> <ul style="list-style-type: none"> <li><b>Place</b> PRZR heaters in off.</li> <li><b>Select</b> position 1-3 (RED-BLUE) on PRZR Level Control Selector switch.</li> <li><b>Restore</b> pressurizer heaters.</li> <li><b>Restore</b> Letdown per 1C12.1.</li> <li><b>Ensure</b> PRZR Level Recorder not selected to White channel.</li> </ul> <p><b><u>1C12.1, LETDOWN, CHARGING, AND SEAL WATER INJECTION – UNIT1:</u></b></p> <ul style="list-style-type: none"> <li><b>Notify</b> Duty RP tech normal LD is being returned to service.</li> <li><b>Place</b> 1HC-130, LTDN TEMP CONT, in MANUAL and <b>OPEN</b> to 50%.</li> <li><b>Place</b> 1HC-135A, LTDN PRESS CONT, in MANUAL and <b>OPEN</b> to about 50%.</li> <li><b>Position</b> CV-31204, LTDN DIVERT TO PURIF, to the DIVERT position, using CS-46167.</li> <li><b>Establish</b> charging to the regen HX as follows:             <ul style="list-style-type: none"> <li><b>Adjust</b> 1HC-142, CHG LINE FLOW CONT, <b>AND</b> the inservice charging pump speed.</li> <li><b>Verify</b> sufficient charging to prevent flashing of LD.</li> </ul> </li> </ul>

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SCENARIO TIME-LINE:			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
EVENT 4 cont.		SS (TS)	<ul style="list-style-type: none"> <li>• OPEN CV-31339, LTDN LINE CNTMT ISOL, using CS-46166.</li> <li>• <b>OPEN</b> the loop B LD isolation valves:                             <ul style="list-style-type: none"> <li>○ CV-31226, LETDOWN LINE ISOL, CS-46165</li> <li>○ CV-31255, LETDOWN LINE ISOL, CS-46133</li> </ul> </li> <li>• <b>OPEN</b> the desired LD orifice isolation valve while adjusting 1HC-135A so the 600 psig LD relief doesn't lift and the desired flow rate is obtained.                             <ul style="list-style-type: none"> <li>○ CV-31325, LETDOWN ORIFICE ISOL 40 GPM, CS-46170</li> <li>○ CV-31326, LETDOWN ORIFICE ISOL 40 GPM, CS-46171</li> </ul> </li> <li>• <b>Return</b> 1HC-135A and 1HC-130 to AUTO per C7.</li> </ul> <p>The SS will <b>enter</b> the following TS LCOs:</p> <ul style="list-style-type: none"> <li>• <b>3.3.1 Condition A</b> <ul style="list-style-type: none"> <li>○ Enter Condition referenced in Table 3.3.1-1 for the channel(s) or train(s) IMMEDIATELY.</li> </ul> </li> <li>• <b>3.3.1 Condition K</b> <ul style="list-style-type: none"> <li>○ Place channel in trip in 6 hours.</li> </ul> </li> </ul> <p><u>OR</u></p> <ul style="list-style-type: none"> <li>○ Reduce THERMAL POWER to &lt;P-7/P-8 in 12 hours</li> </ul>







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	<p align="center"><b>NOTE</b></p> <p><i>The operator will have to perform the following to align Safeguards Components for Safety Injection:</i></p> <table border="1"> <thead> <tr> <th>CS #</th> <th>COMPONENT</th> <th>DESIRED CONDITION</th> </tr> </thead> <tbody> <tr> <td align="center" colspan="3">(Normally Aligned in Att. L)</td> </tr> <tr> <td>46064</td> <td>MV-32115, 122 SFP HX INLT HDR MV B</td> <td>CLOSED</td> </tr> <tr> <td>---</td> <td>CV-31079 thru CV-31082 (TURBINE DRAIN VALVES)</td> <td>OPEN</td> </tr> <tr> <td>46338</td> <td>STEAM DUMP MODE</td> <td>STM PRESS</td> </tr> <tr> <td>46018</td> <td>11 CFCU</td> <td>SLOW</td> </tr> <tr> <td>46019</td> <td>13 CFCU</td> <td>SLOW</td> </tr> <tr> <td align="center" colspan="3">(Align due to Malfunctions)</td> </tr> <tr> <td>46184</td> <td>11 RHR PUMP</td> <td>ON</td> </tr> <tr> <td>46185</td> <td>12 RHR PUMP</td> <td>ON</td> </tr> <tr> <td>46039</td> <td>LOOP A/B CLG WTR HDR XOVR VLV A MV-32144</td> <td>CLOSE</td> </tr> <tr> <td>46144</td> <td>LOOP A/B CLG WTR HDR XOVR VLV B MV-32159</td> <td>CLOSE</td> </tr> <tr> <td>46519</td> <td>121 CLG WTR HDR VLV C MV-32036</td> <td>CLOSE</td> </tr> <tr> <td>46509</td> <td>121 CLG WTR HDR VLV D MV-32037</td> <td>CLOSE</td> </tr> <tr> <td>46336</td> <td>12 DDCLWP MAN/AUTO</td> <td>MANUAL</td> </tr> <tr> <td>46053</td> <td>12 DDCLWP</td> <td>START</td> </tr> <tr> <td>46537</td> <td>22 DDCLWP MAN/AUTO</td> <td>MANUAL</td> </tr> <tr> <td>46523</td> <td>22 DDCLWP</td> <td>START</td> </tr> </tbody> </table>	CS #	COMPONENT	DESIRED CONDITION	(Normally Aligned in Att. L)			46064	MV-32115, 122 SFP HX INLT HDR MV B	CLOSED	---	CV-31079 thru CV-31082 (TURBINE DRAIN VALVES)	OPEN	46338	STEAM DUMP MODE	STM PRESS	46018	11 CFCU	SLOW	46019	13 CFCU	SLOW	(Align due to Malfunctions)			46184	11 RHR PUMP	ON	46185	12 RHR PUMP	ON	46039	LOOP A/B CLG WTR HDR XOVR VLV A MV-32144	CLOSE	46144	LOOP A/B CLG WTR HDR XOVR VLV B MV-32159	CLOSE	46519	121 CLG WTR HDR VLV C MV-32036	CLOSE	46509	121 CLG WTR HDR VLV D MV-32037	CLOSE	46336	12 DDCLWP MAN/AUTO	MANUAL	46053	12 DDCLWP	START	46537	22 DDCLWP MAN/AUTO	MANUAL	46523	22 DDCLWP	START	<p>BOP (C) SS (C)</p>	<p><b><u>1E-0 Attachment L: SI Alignment Verification:</u></b></p> <ul style="list-style-type: none"> <li>• <b>Verify</b> Safeguards Component Alignment             <ul style="list-style-type: none"> <li>○ See table on page 17</li> </ul> </li> <li>• <b>Close</b> MV-32115, 122 SFP HX INLT HDR MV B</li> <li>• Check Cooling Water Header Pressures</li> <li>• Verify plant announcements complete</li> <li>• Check If Main Steamlines Are required to be isolated</li> <li>• Verify SI &amp; RHR Flow</li> <li>• Check RCP Cooling</li> <li>• Verify Generator Breakers – OPEN</li> <li>• Verify All Heater Drain Pumps – STOPPED</li> <li>• <b>Open</b> turbine drain valves</li> <li>• Verify Main Feedwater Alignment</li> <li>• Verify All Condensate Pumps - STOPPED</li> <li>• <b>Place</b> Steam Dump in "STM PRESS" Mode</li> <li>• Verify Unit 1 Cooling Water/Chilled Water Alignment</li> <li>• Verify 11 Safeguards Screenhouse Ventilation lineup</li> <li>• Verify Control Room Ventilation Alignment</li> <li>• Verify Unit 2 Cooling/Chilled Water Alignment</li> <li>• Verify 21 Safeguards Screenhouse Ventilation lineup</li> <li>• Verify 11 and 12 Battery Charger Operation is normal</li> <li>• Verify Battery Room temps less than 84°F</li> <li>• Check status of Spent Fuel Cooling</li> <li>• Check Status Of Notifications</li> <li>• <b>Notify</b> SS Of Any Discrepancies</li> </ul>
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<b>SCENARIO TIME-LINE:</b>			
SEQ	SEQUENCE OF EVENTS / INSTRUCTOR NOTES	CREW POS	EXPECTED STUDENT RESPONSES
<b>END</b>	Once the crew has <b>cooled down &amp; depressurized 11 SG and stopped the 12 SI pump</b> , and/or at the discretion of the Lead Evaluator, then place the simulator in FREEZE. Inform the crew that training has the duty.		
	<b>Booth Operator:</b>  <i>Collect SBT data per Attachment 1.</i>		

**PI-ILT-NRC-2003S, 2020 ILT NRC SIMULATOR EVALUATION #3, REV. 0**

**SIMULATOR INPUT SUMMARY**

@Time	Event	Action	Description
00:00:00		Insert malfunction RH02A	RESIDUAL HEAT REMOVAL PUMP #11 FAILS TO START AUTOMATICALLY
00:00:00		Insert malfunction RH02B	RESIDUAL HEAT REMOVAL PUMP #12 FAILS TO START AUTOMATICALLY
00:00:00		Insert malfunction RP12	FAILURE OF SI TO COOLING WATER SIGNAL TO ACTUATE
00:00:00		Insert override DI-46178P to True	11 SI PUMP OOS
00:00:00		Insert override DI-46178ST to False	11 SI PUMP OOS
	2	Insert malfunction RX226 to 0 on event 2	1 TURB 1ST STAGE STM (CHNL II-WHI) P XMTR (1PT-485)
	4	Insert malfunction RX205 to 0 on event 4	1 PRZR (CHNL II-WHI) LVL XMTR (1LT-427)
	5	Insert malfunction SG02A to 8.00000 on event 5	STEAM GENERATOR #11 TUBE RUPTURE
	15	Insert remote CL105 to OPEN on event 15	11/13 FCU CLG WTR RTN ORF BP VLV
	15	Insert remote CL106 to OPEN on event 15	12/14 FCU CLG WTR RTN ORF BP VLV

## **Simulator Setup:**

### **Beginning of Day:**

- \_\_\_ 1. If it is the first scenario of the day, then perform a **shutdown** and **restart** of the floor PCs that are connected to the LAN.
- \_\_\_ 2. **Log in** on floor PCs with user ID & password: <pitrgsim>
- \_\_\_ 3. **Update** or **Verify** Control Room Placards:
  - a. NRC Code Placard:
    - i. NRC Current Authentication Code **D3RF**.
    - ii. Today's Date.
  - b. High Flux at Shutdown Alarm Setpoint placards: **5000 cps**.
  - c. Feedwater regulating valve position placard **set to current values**.
  - d. Recommended SG Blowdown flow **set to current values**.
- \_\_\_ 4. Verify **Current** Plant Status Magnetic Placards are in Place:
  - a. Blowdown 46470 "**SGB to CDSR**"
  - b. H2 in VCT Space
  - c. 11 BA TANK "Lined Up for Service"
  - d. 11 BA PUMP "Lined Up to 11 BA Tank"
  - e. 12 BA PUMP "Lined Up to 11 BA Tank"
  - f. CC to SFP MV-32115 "In Service"
  - g. CC to SFP MV-32117 "In Service"
- \_\_\_ 5. Current Plant **Pink Status Control Tags** in place:
  - a. CS-46540, 22 CC WTR PUMP
  - b. CS-46572, 121 SFP HX INLT
- \_\_\_ 6. Current Plant **Yellow Caution Tags** in place:
  - a. NONE
- \_\_\_ 7. Verify that copy machine and printers are loaded with **YELLOW BORDER** paper.
- \_\_\_ 8. Pens/Notepads/Markers available on the simulator.

## Simulator Setup:

**NOTE: The time between simulator reset and placing simulator in RUN should be minimized to reduce the difference between the ERCS time and actual time.**

- \_\_\_ 1. If this is the first scenario of the day, then **perform** Beginning of Day checklist on previous page.
- \_\_\_ 2. **Reset** the Simulator to **IC-253** and **go to** step 4.
- \_\_\_ 3. If IC-253 is not available, then **perform** the following:
  - a. **Reset** the Simulator to IC-12 and **place** in RUN.
  - b. **Place** CS-46178, 11 SI PUMP in PULLOUT.
  - c. **Verify** "RMU DEGAS" sign is on 22 RMU Pump.
- \_\_\_ 4. **Place** the simulator in RUN.
- \_\_\_ 5. If available, **run** schedule file **PI-ILT-NRC-2003S.sch** as follows:
  - a. **Locate** schedule file.
  - b. **Open** schedule file by double clicking it.
  - c. **Run** the schedule file by pressing the "Stopped" button on the toolbar.
  - d. **Verify** the schedule file is running.
- \_\_\_ 6. If schedule file is NOT available, then **insert** malfunctions, remotes, and overrides, as specified by the Simulator Input Summary.
- \_\_\_ 7. If desired, **start** Scenario Based Testing Data Collection Program per Attachment 1.
- \_\_\_ 8. **Complete** the "Simulator Setup Checklist" on next page

## SIMULATOR SETUP CHECKLIST

### Pre-Scenario Checklist:

\_\_\_\_\_ Simulator Status:

- |                       |  |
|-----------------------|--|
| ___1. "Training Load" | ___4. Step counters: NOT USED                |
| ___2. Alarm sound ON  | ___5. Simulator running in IC-253 or IC-12.  |
| ___3. Speed: REAL     | ___6. Steps 1 – 7 on previous page complete. |

\_\_\_\_\_ **Delete** memory on Yokogawa Model DX1000 recorders by cycling Recorder Power.

\_\_\_\_\_ Verify Schedule File/Summary matches Simulator Input Summary page in the SEG.

\_\_\_\_\_ Verify that control rod step counters on C panel and ERCS RBU **CBD @ 178**.

\_\_\_\_\_ Boric Acid/RMU integrators set to: **BA: 0, RMU: 20**, and reset.

\_\_\_\_\_ **EOC ΔI** sheet displayed on C panel.

\_\_\_\_\_ **EOC Reactivity Briefing** sheet available at Reactor Operator Desk.

\_\_\_\_\_ Verify Boric Acid and Reactor Makeup Controllers are set properly:

- \_\_\_1. 1HC-110: **2.1%**
- \_\_\_2. 1HC-111: **44.7%**

\_\_\_\_\_ **Update or Verify** SEG specific Control Board Placards:

- \_\_\_1. CVCS panel placard:
  - a. RCS boron – **230 ppm**.
  - b. RCS H<sub>2</sub> – **45 cc/kg**.
  - c. Turbine Reference Value and Mode – **matched with DEHC**.
- \_\_\_2. Shift Reactivity Guidance placard:
  - a. BA: **0.3 gallons**
  - b. RMU: **67 gallons**
  - c. Dilutions: **20 gal RMU, 1-2 times per shift**
- \_\_\_3. EAL Classification Placard **CLEANED** and **placed** on side of SS desk.
- \_\_\_4. LCO Timer **CLEANED**.

\_\_\_\_\_ SEG specific **Magnetic Placards** in place:

- \_\_\_1. NONE

\_\_\_\_\_ SEG specific or Protected Equipment **Pink Status Control Tags** in place:

- |                             |  |
|-----------------------------|--|
| ___1. CS-46425, 12 MD AFWP  | ___4. CS-46037, 12 CC WTR PUMP           |
| ___2. CS-46185, 12 RHR PUMP | ___5. CS-46523, 22 CLG WTR PUMP (DIESEL) |
| ___3. CS-46179, 12 SI PUMP  | ___6. CS-46930, D2 DIESEL GENERATOR      |

\_\_\_\_\_ SEG specific or Out of Service **Yellow Caution Tags** are in place:

- \_\_\_1. CS-46178, 11 SI PUMP

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Retention: Life of Plant

Retain in: Training Program File

Form retained in accordance with record retention schedule identified in FP-G-RM-01.



**Pre-Scenario Checklist continued:**

\_\_\_\_\_ ERCS driven recorders are on-scale (RCS temperature scaled **545° F to 555° F**).

\_\_\_\_\_ ERCS alarm screen operating and alarms **reset**.

\_\_\_\_\_ All ERCS terminals operating and set as follows:

CONF	<b>VARs</b>	R02	<b>Alarm Summary Page</b>
CONE1	<b>Group OP31_U1</b>	R03	<b>AFD</b>
CONC	<b>SAS (XS11)</b>	R04	<b>TPM</b>
CONG1	<b>Group QP CCData</b>	R05	<b>QP LOADFOLL</b>
ERCS-R01	<b>Group RADMON_U1</b>	R06	<b>Alarm Summary Page</b>

\_\_\_\_\_ ERCS single point displays:

CONB	<b>1T0499A</b>	<b>1U1613A</b>
CONE2	<b>1Q0340A</b>	<b>1V4501A</b>

\_\_\_\_\_ ERCS TPM set (**Calorimetric - Auto Scaling - VENT**).

\_\_\_\_\_ Set Turbine Control HMI Displays as follows:

- \_\_\_ 1. U1 E-H Turb Cont STA 2 (48087) to **Control Valve Overview**
- \_\_\_ 2. U1 Turb Aux Cont (48088) to **Turb Overview**
- \_\_\_ 3. U1 E-H Turb Cont STA 1 (48086) to **Off Line Control**
- \_\_\_ 4. DEHC alarms **cleared**.

\_\_\_\_\_ Verify DEHC **VPL set ~0.1 to 0.3 above** current valve position (not on limiter).

\_\_\_\_\_ YELLOW turnover sheets 1-9 available.

\_\_\_\_\_ Electronic PINGP 577 forms and TABS **closed** on both LAN connected PCs.

\_\_\_\_\_ Board-mounted EAL Tables are **cleaned**.

\_\_\_\_\_ Headsets turned on as necessary.

\_\_\_\_\_ **Perform** one of the following:

- **Clear** web browser history and recent procedures in pdf.
- **Complete** post-scenario checklist.

\_\_\_\_\_ Procedure checklist **completed**. See following page.

\_\_\_\_\_ Peer Check performed for simulator setup.

**PROCEDURE CHECKLIST:**

**NOTE:** The following procedures will be used during this session. Verify the procedures are free of place keeping marks before starting the session and after the session are complete.

Before 1 <sup>st</sup> / 2 <sup>nd</sup>	After 1 <sup>st</sup> / 2 <sup>nd</sup>	
/	/	1C5 AOP1, UNCONTROLLED ROD MOTION
/	/	1C5 AOP1 CRITICAL PARAMETER CARD
/	/	1C12.1, LETDOWN, CHARGING, AND SEAL WATER INJECTION – UNIT 1
/	/	1C51.2, TURBINE 1 <sup>ST</sup> STAGE PRESSURE 1P-485 - LOW
/	/	1C51.2, PRESSURIZER LEVEL 1L-427 – LOW
/	/	
/	/	C13.1, REACTOR MAKEUP SYSTEM
/	/	C47012-0104, REACTOR COOLANT SYSTEM HI TAVG
/	/	C47012-0304, REACTOR COOLANT SYSTEM TAVG DEVIATION
/	/	C47012-0604, REACTOR COOLANT SYSTEM ΔT DEVIATION
/	/	C47013-0305, AUCTIONEERED TAVG-TREF DEVIATION
/	/	
/	/	1E-0, REACTOR TRIP OR SAFETY INJECTION
/	/	1E-0 ATT. L, SI ALIGNMENT VERIFICATION
/	/	1E-3, STEAM GENERATOR TUBE RUPTURE
/	/	
/	/	1E-CAS, UNIT 1 CONTINUOUS ACTION & INFO PAGE SUMMARY
/	/	
/	/	LAMINATE COPY OF 1C5, SECTION 5.5
/	/	LAMINATE COPY OF 1C12.5, SECTIONS 5.8, 5.9, & 5.10
/	/	
/	/	REACTIVITY BRIEFING SHEET - EOC
/	/	
/	/	SWI O-28, NOTIFICATION OF OPS MNGR & NRC RESIDENT INSPECTOR
/	/	
/	/	T.S. LCO 3.3.1
/	/	T.S. LCO BASES 3.3.1
/	/	T.S TRM 3.3.4
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**Post-Scenario Checklist**

- \_\_\_\_\_ Clear web browser history and recent procedures in pdf.
- \_\_\_\_\_ Computer generated PINGP 577 cleared.
- \_\_\_\_\_ Procedure checklist completed. See previous page.
- \_\_\_\_\_ Remove Pink Status Control Tags from the following equipment:
- \_\_\_ 1. CS-46425, 12 MD AFWP
- \_\_\_ 2. CS-46185, 12 RHR PUMP
- \_\_\_ 3. CS-46179, 12 SI PUMP
- \_\_\_ 4. CS-46037, 12 CC WTR PUMP
- \_\_\_ 5. CS-46523, 22 CLG WTR PUMP (DIESEL)
- \_\_\_ 6. CS-46930, D2 DIESEL GENERATOR
- \_\_\_\_\_ Magnetic placards removed:
- \_\_\_ 1. NONE
- \_\_\_\_\_ Remove Yellow Caution Tags from the following equipment:
- \_\_\_ 1. CS-46178, 11 SI PUMP
- \_\_\_\_\_ Board-mounted EAL Table is cleaned.
- \_\_\_\_\_ All books, note pads, and calculators put away.

**End Of Day Checklist**

- \_\_\_\_\_ Signs/placards removed and put away unless normal simulator configuration.
- \_\_\_\_\_ If desired, floor PCs logged off if simulator will not be used again that day.
- \_\_\_\_\_ Instructor station returned to normal with all books, paper, and etc. put away.
- \_\_\_\_\_ Headsets turned off and put away if simulator will not be used again that day.
- \_\_\_\_\_ Simulator reset to IC-10 unless another IC will be used for further training.
- \_\_\_\_\_ Simulator placed in DORT if simulator will not be used again that day.
- \_\_\_\_\_ Verify the following placards are erased:
- CVCS panel
  - Shift Reactivity Guidance
  - LCO Timer
  - NRC Authentication Code

RETENTION: 7 Days

**UNIT 1 LPEO / PEO TURNOVER LOG**

DATE: 8/18/2020

DAY/NIGHT SHIFT: Day

CAT 1 VENT OPENINGS: 0 ft<sup>2</sup>

SYSTEM CONDITION: GREEN

**SAFEGUARDS EQUIPMENT OOS/TECH SPEC REQUIRED ACTION STATEMENTS**

1. 11 SI PUMP is Out of Service for corrective maintenance.
  - T.S. LCO 3.5.2 Condition A has been entered with 48 hours remaining.
  - 11 SI Pump is expected to be returned to service in 24 hours.

**PROTECTED EQUIPMENT**

SFP COOLING	12 CC PUMP
12 MD AFW PUMP	22 CL WTR PUMP
12 RHR PUMP	D2 DIESEL GENERATOR
12 SI PUMP	

<b>RAD MONITORS OOS</b>	<b>ANNUNCIATORS OOS</b>
-------------------------	-------------------------

NONE	NONE
------	------

<b>OUTSTANDING SP'S</b>	<b>FIRE DET / PROT EQP IMPAIRMENTS</b>
-------------------------	--

NONE	NONE
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**OTHER EQUIPMENT OOS / STATUS**

Exposure:	EOC	Pressure:	2235 PSIG	Unit 2 is at 100% power. Unit 1 power was reduced from 100% to 60% 7 days ago for plant maintenance.
Power:	60%	Xenon:	Equilibrium	
Boron (CB):	230 PPM	Rods:	CBD @ 178	
T <sub>AVG</sub> :	554°F	Generator:	338 MW	

**MAJOR EQUIPMENT REPAIRED / RETURNED TO SERVICE**

NONE
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**OPERATIONAL PLANS FOR COMING SHIFT**

- Prior to entering the Simulator, perform a Pre-Job Brief for the following:
  - Swap running RMU pumps per C13.1.
- After taking the duty, swap running RMU pumps per C13.1 and PJB.

**NEW PROCEDURES / INSTRUCTIONS**

--

## Simulator Scenario Development Checklist

Mark with an X Yes or No for any of the following. If the answer is No, include justification for the no answer or the corrective action needed to correct the discrepancy after the item.

- |  |                 |                |
|--|-----------------|----------------|
| 1. The scenario contains objectives for the desired tasks and relevant human performance tools.  | Yes<br><b>X</b> | No             |
| 2. The scenario identifies key parameter response, expected alarms, and automatic actions associated with the induced perturbations.   | Yes<br><b>X</b> | No             |
| 3. The scenario content adequately addresses the desired tasks, through simulator performance, instructor-led training freezes, or both.   | Yes<br><b>X</b> | No             |
| 4. Plant PRA initiating events, important equipment, and important tasks are identified.   | Yes<br><b>X</b> | No             |
| 5. Turnover information includes a Daily At Power or Shutdown Safety Risk Assessment. <i>Justification: PRA software not installed on Sim computers.</i>   | Yes             | No<br><b>X</b> |
| 6. The scenario contains procedurally driven success paths. Procedural discrepancies are identified and corrected before training is given.  | Yes<br><b>X</b> | No             |
| 7. The scenario guide includes responses for all anticipated communications to simulated personnel outside the Control Room, based on procedural guidance and standard operating practices. Include estimated completion times and/or notes for use of time compression. | Yes<br><b>X</b> | No             |
| 8. The scenario includes related industry experience. SOER, SER and similar OE recommendations are clearly identified and fully addressed.*  | Yes             | No<br><b>X</b> |
| 9. The scenario guide incorporates verification of Operator Fundamental application.*  | Yes             | No<br><b>X</b> |
| 10. Training elements and specific human performance elements are addressed in the scenario critique guide to be used by the critique facilitator. The critique guide includes standards for expected performance.*  | Yes             | No<br><b>X</b> |
| 11. For evaluations, it has been verified that without operator action the critical tasks will be failed.  | Yes<br><b>X</b> | No             |

Developer and Reviewer: Once checklist is completed and deficiencies are corrected, sign the cover page.

\* For evaluations these items may be marked NO without justification.

### Simulator Scenario Validation Checklist

Mark with an X Yes or No for any of the following. If the answer is No, include an explanation after the item.

- |  |                 |    |
|--|-----------------|----|
| 1. The desired initial conditions agreed with the reference plant with respect to reactor status, plant configuration, and system operation.   | Yes<br><b>X</b> | No |
| 2. The simulator operated in real time during conduct of validation.   | Yes<br><b>X</b> | No |
| 3. The simulator demonstrated expected plant response to operator input and to normal, transient, and accident conditions.   | Yes<br><b>X</b> | No |
| 4. The simulator permitted use of the reference plant's procedures. The scenario was completed without procedural exceptions, simulator performance exceptions, or deviation from the scenario sequence. | Yes<br><b>X</b> | No |
| 5. The simulator did not "fail to cause" or "unexpectedly cause" any first principle alarm or primary automatic action.  | Yes<br><b>X</b> | No |
| 6. Observable changes in parameters relevant to the scenario corresponded in trend and direction to reference plant's expected response.   | Yes<br><b>X</b> | No |
| 7. All malfunctions and other instructor interface items were functional and demonstrated the expected reference plant's response to the initiating cause.   | Yes<br><b>X</b> | No |
| 8. All malfunctions and other instructor interface items were initiated in the same sequence described within the simulator scenario.  | Yes<br><b>X</b> | No |
| 9. The scenario satisfies the learning or examination objectives without any significant simulator performance issues, or deviations from the approved scenario sequence.                                | Yes<br><b>X</b> | No |
| 10. Simulator fidelity has been demonstrated to be adequate for this scenario.   | Yes<br><b>X</b> | No |

Discrepancies noted (Check "none" or list items found)  None

SMAR = Simulator Action Request

SMAR: \_\_\_\_\_ SMAR: \_\_\_\_\_ SMAR: \_\_\_\_\_ SMAR: \_\_\_\_\_

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Retention: Life of Plant

Retain in: Training Program File

Form retained in accordance with record retention schedule identified in FP-G-RM-01.

**PI-ILT-NRC-2003S, 2020 ILT NRC SIMULATOR EVALUATION #3, REV. 0**

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Validator: Sign the cover page only after noted discrepancies are corrected or compensatory actions are taken to ensure quality training.

<b>Validation Personnel</b>		
<b>Name</b>	<b>Job Title / Qualification</b>	<b>Validation Position</b>
SNYDER	SRO	SS
STRAIN	RO	BOP
PARADA	SRO	ATC

**ATTACHMENT 1****SBT EXAM DATA COLLECTION****• BEFORE SCENARIO**

- START menu
- SBT Report
- File
- OPEN
- Select file type “.tis”
  - (FILE LOCATION: sim data (X:) / TRex\_PI / LIGHTNING / SBT
- Select SBT.tis
- OPEN or double click
- Check TAM log & verify no cycling switches
- Run scenario

**• AFTER SCENARIO**

- FREEZE on Simulator
- Click GREEN arrow to generate report
- Enter the following:
  - (NAME is not required)
  - Test Title (2003S ILT NRC SBT Group x)
  - Report Name (same as test title)
- Click the “...” button to right of Report Name field.
- Select location where file is to be saved (on Locker G3 flash drive)
- Enter file name (same as report name) & SAVE
- Click GENERATE, verify file location, and close “html” file
- START menu
- COMPARE IT
- Click “+” ADD
- Select “.csv” file from previously saved location
- OPEN or double click
- Click GREEN “COMPARE” button
- Wait for spreadsheet to populate and then save in desired location
- Close spreadsheet, COMPARE IT, and SBT Report
- Verify all 3 files are saved in proper location