

SCENARIO #1**I. SIMULATOR OPERATOR INSTRUCTIONS****A. INITIAL SIMULATOR SETUP**

✓	ITEM / MALFUNCTION / REMOTE FUNCTION / CONDITION
	<ul style="list-style-type: none"> ■ Prepare simulator per TQ-AA-106-0301, Simulator Training Practices Job Aid
	<ul style="list-style-type: none"> ■ Reset simulator to IC-40 <ul style="list-style-type: none"> - 100% Power - RCIC out of service
	<ul style="list-style-type: none"> ■ Apply Information Tags on the following RCIC components: <ul style="list-style-type: none"> - HV49-1F007, INBD PCIV - HV49-1F008, OUTBD PCIV - HV49-1F076, Warmup Bypass - HV49-1F010, CST Suction - HV49-1F012, Discharge Valve - HV49-1F019, Min Flow Valve - HV49-1F029, Suppression Pool Suction - HV50-1F045, Steam Supply MOV - HV50-1F060, Turbine Exhaust
	<ul style="list-style-type: none"> ■ Take out of FREEZE and ensure the following: <ul style="list-style-type: none"> - Reactor Power is 100% - With the exception of RCIC, all other equipment is OPERABLE

- If not embedded in IC-40, load Scenario "ILT NRC Scenario #1" from floppy disk labeled "2006 NRC EXAM" using A: drive. Ensure the following malfunctions are loaded:
 - MVI238B, active 1 minute after Trigger 1 is activated.
 - MED263D, active 10 minutes after narrow range "B" fails low (Trigger 1).
 - MAD147E, active 15 minutes after fault on bus D14 (Trigger 1).
 - MRR441, Trigger 2 active when mode switch placed in Shutdown
 - MFW252B, Trigger 3 active when drywell pressure at 2psig.
 - MHP449, Trigger 4 active when HPCI flow is at 5000 gpm.
 - MSL559, Active immediately.
 - MCR412A, Trigger 5 active when drywell pressure at 2psig.

Interventions Summary - A: ILT NRC Scenario #1.scn

Hide Malfunctions - 7 Show Remotes - 1 Hide Overrides - 10 Show Annunciators - 0

Malfunction Summary

Mal ID	Mak ID	Description	Current Value	Target Value	Rtime	Actime	Deactime	Trig
MVI238B		PwC Rx Level Xmitter (C32-1N004B) Fails (0-60 inches)		0	00:00:00	00:01:00	00:00:00	1
MED263D		Bus Fault on 4 KV Safeguard Bus D14		True	00:00:00	00:11:00	00:00:00	1
MAD147E		Relief Valve (F013L) Fails (Fails Oper: Mechanical)		True	00:00:00	00:26:00	00:00:00	1
MRR441		Coolant Leakage in Drywell (0-300 gpm)		300	00:06:00	00:00:00	00:00:00	2
MFW252B		Pw Line B Break Inside Primary Containment		100	00:00:00	00:00:00	00:00:00	3
MHP449		HPCI Turbine Trip		True	00:00:00	00:00:00	00:00:00	4
MSL559		SLC Injection Line Rupture Inside the Drywell		True	00:00:00	00:00:00	00:00:00	0
MCR412A		Control Rod Drive Hydraulic Pump A Trips		True	00:00:00	00:00:00	00:00:00	5

Timer Pause

Override Summary

Tag ID	Description	Position / Target	Actual Value	Override Value	Rtime	Actime	Deactime	Trig
HS49-1F007	HV49-1F007, RCIC Stm Line Isolation Valve Ind Lamps			ALLOFF		00:00:00	00:00:00	0
HS49-1F008	HV49-1F008, RCIC Stm Line Isolation Valve Ind Lamps			ALLOFF		00:00:00	00:00:00	0
HS49-1F010	HV49-1F010, RCIC Pump Suction from CST Ind Lamps			ALLOFF		00:00:00	00:00:00	0
HS49-1F012	HV49-1F012, RCIC Pump Discharge Valve			ALLOFF		00:00:00	00:00:00	0
HS49-1F019	HV49-1F019, RCIC Pump Min Flow Valve Ind Lamps			ALLOFF		00:00:00	00:00:00	0
HS49-1F029	HV49-1F029, RCIC Suction from Supp Pool Ind Lamps			ALLOFF		00:00:00	00:00:00	0
HS49-1F031	HV49-1F031, RCIC Suction from Supp Pool Ind Lamps			ALLOFF		00:00:00	00:00:00	0
HS49-1F076	HV49-1F076, RCIC Steam Warmup Bypass Vlv Ind Lamps			ALLOFF		00:00:00	00:00:00	0
HS50-1F045	HV50-1F045, RCIC Turbine Steam Supply Vlv Ind Lamps			ALLOFF		00:00:00	00:00:00	0
HS49-1F060	HV50-1F060, RCIC Turbine Exhaust Valve Ind Lamps			ALLOFF		00:00:00	00:00:00	0

Timer Pause

- Reset any annunciators that should not be present

B. INSTRUCTIONS FOR SIMULATOR OPERATOR**EVENT 1: "1B" Narrow Range Level Transmitter Fails Downscale**

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Activate Trigger #1 after crew takes the shift <u>and</u> when prompted by floor instructor.
	<ul style="list-style-type: none"> ■ If I&C / WWM contacted, report that failure will be investigated promptly.

EVENT 2: D14 Bus Overcurrent / Loss of D14 Bus

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Ensure D14 bus trip trigger timer activates appropriately.
	<ul style="list-style-type: none"> ■ If Equipment Operator / Floor Supervisor contacted, wait 5 minutes and report to the crew that several overcurrent relays are tripped on D14.
	<ul style="list-style-type: none"> ■ If Equipment Operator / Floor Supervisor contacted to perform pre-start checks on the "1A" Drywell Chiller, wait 5 minutes and report to the crew that the chiller is ready to start.
	<ul style="list-style-type: none"> ■ Respond appropriately to a request for running checks on the D14 diesel and the "1A" Drywell Chiller.
	<ul style="list-style-type: none"> ■ Respond to request for other assistance as appropriate.

EVENT 3: SRV "L" Fails Open Mechanically

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Ensure SRV open trigger timer activates appropriately.
	<ul style="list-style-type: none"> ■ If Equipment Operator / Floor Supervisor is contacted to pull fuses for SRV "L" IAW OT-114, wait 8 minutes, remove the fuses (RAD214 "Toggle Out"), and report that the fuses are removed.
	<ul style="list-style-type: none"> ■ If requested to open HV51-1F068B (due to the power loss), wait 15 minutes and report the valve cannot be opened manually.

EVENT 4: Coolant Leakage In Drywell

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Respond to request for assistance as appropriate.

EVENT 5: "B" Feedwater Line Rupture Inside Primary Containment

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Respond to request for assistance as appropriate.
	<ul style="list-style-type: none"> ■ If requested, perform the field actions of SE-10. If requested, perform the field actions of SE-10. <ul style="list-style-type: none"> -Reset RHRSW Rad Monitor -Reset RE ARM's -Reset shunt trips ■ -Perform running checks on the diesel generators

EVENT 6: HPCI Turbine Trip

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ If requested, wait 10 minutes and report that the cause of the HPCI trip is unknown.

EVENT 7: "1A" CRD Pump Trip

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Respond to request for assistance as appropriate.

EVENT 8: SLC Pipe Rupture

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	■ Respond to request for assistance as appropriate.

Op-Test No. ILT05-1Scenario No. 1Event No.: 1Event Description: "1B" Narrow Range Level Transmitter fails downscale

Time	Position	Applicant's Actions or Behavior
	RO	Reference ARC for annunciator 107 Reactor D-5, FWLCS TROUBLE.
	RO	Determine signal identity and alarm condition at the FWLC operator station IAW S06.1.H U/1.
	RO	Recognize that the "1B" Narrow Range Level Transmitter has failed low and report the failure to the CRS.
	CRS	Direct contacting I&C / WWM to investigate the instrument failure.
	CRS	Reference Tech Spec 3.3.9 for the turbine high level trip logic.

Op-Test No. ILT05-1Scenario No. 1Event No.: 2Event Description: D14 Bus Overcurrent / Loss of D14 Bus

Time	Position	Applicant's Actions or Behavior
	PRO	Recognize loss of the D14 Bus and report the failure to the CRS.
	CRS	Enter E-D14 and E-D144.
	CRS	Direct dispatching EO / Floor Supervisor to investigate loss of D14.
	RO / PRO	Dispatch EO / Floor Supervisor to investigate loss of D14.
	PRO	Recognize that "1B" Drywell Chiller is not running.
	CRS	Direct PRO to start the "1A" Drywell Chiller and restore drywell cooling.
	RO / PRO	Dispatch EO / Floor Supervisor to perform start / running checks on the 1A Drywell Chiller.
	PRO	Start the "1A" Drywell Chiller.
	RO / PRO	Dispatch EO / Floor Supv. to perform running checks on the D14 diesel.
	CRS	Reference Tech Spec 3.8.3.1 for loss of D14 bus.
	PRO	Recognize the "1D" Core Spray and RHR pumps are inoperable.

Op-Test No. ILT05-1Scenario No. 1Event No.: 3

Event Description: SRV "1L" Fails Open Mechanically

Time	Position	Applicant's Actions or Behavior
	RO	Recognize "1L" SRV has failed open and report failure to CRS.
	PRO	Attempt to place both loops of Suppression Pool Cooling in service.
	CRS	Enter OT-114, Inadvertent Opening of a Relief Valve
	RO	Provide confirmation of the open SRV.
	PRO	Recognize the "B" RHRSW heat exchanger outlet valve has lost power, therefore only one loop of Suppression Pool Cooling is available.
	CRS	Direct RO to reduce turbine inlet pressure to 900 psig.
	RO	Reduce turbine inlet pressure to 900 psig
	RO	Recognize SRV did not close and report to CRS.
	CRS	Enter GP-4.
	CRS	Direct PRO to transfer house loads.
	PRO	Transfer house loads.
	CRS	Direct the PRO / RO to runback recirc to minimum.
	PRO/RO	Runback recirc to minimum.
	CRS	Direct RO to scram the Reactor at 50% core flow.
CT	RO	Manually scram the Reactor.
	CRS	Enter T-101 on low Reactor level.

Op-Test No. ILT05-1Scenario No. 1Event No.: 4

Event Description: Coolant Leakage in Drywell

Time	Position	Applicant's Actions or Behavior
	RO	Reference ARC for annunciator 107 REACTOR F-2, DRYWELL HI / LOW PRESS.
	CRS	Enter OT-101, High Drywell Pressure.
	CRS	Direct PRO to maximize Drywell cooling and terminate Primary Containment inerting
	PRO	Verify Drywell cooling maximized and Primary Containment inerting is not in progress
	CRS	Direct PRO to isolate RWCU IAW OT-101.
	CRS	Enter T-102 when Suppression Pool temperature reaches 95 degrees F. (stuck open SRV)

Op-Test No. ILT05-1Scenario No. 1Event No.: 5

Event Description: "B" Feedwater Line Rupture Inside Primary Containment

Time	Position	Applicant's Actions or Behavior
	CRS	Re-enter T-101 and enter T-102 on high drywell pressure.
	CRS	Direct PRO to bypass and restore drywell cooling when drywell air temperature reaches 145 degrees F.
	PRO	Bypass and restore drywell cooling.
	RO	Recognize feedwater is not injecting into RPV.
	CRS	Direct PRO / RO to verify isolations.
	CRS	Re-enter T-101 on low Reactor level.
	CRS	Direct PRO to spray the Suppression Pool per T-225 using RHR before Suppression Pool pressure reaches 7.5 psig.
	PRO	Spray the Suppression Pool per T-225.
	CRS	Enter T-111, Level Restoration, when it is determined RPV level cannot be maintained above -161".
	CRS	Direct PRO / RO to inhibit auto ADS.
CT	PRO / RO	Inhibit auto ADS.
	CRS	Direct PRO / RO to start alternate injection sub-systems.
	RO	Attempt to start SLC and recognize problem (Event 8).
	CRS	Direct PRO / RO to start injection sub-systems.
	PRO	Start injection sub-systems.
	CRS	Enter T-112 when Reactor level reaches -161" <u>OR</u> when required by the PSP curve in T-102.
	CRS	Direct the RO / PRO to prevent uncontrolled injection with low pressure systems.
	CRS	Direct PRO to open 5 ADS valves.
CT	PRO	Open 5 ADS valves.
	CRS	Enter SE-10 for the LOCA signal.
	RO / PRO	Dispatch EO / Floor Supervisor to perform SE-10 actions in the field.

Op-Test No. ILT05-1Scenario No. 1Event No.: 6

Event Description: HPCI Turbine Trip

Time	Position	Applicant's Actions or Behavior
	PRO	Recognize HPCI is not injecting.
	PRO	Contact EO / FSV to investigate loss of HPCI.

Op-Test No. ILT05-1Scenario No. 1Event No.: 7

Event Description: "1A" CRD Pump Trip

Time	Position	Applicant's Actions or Behavior
	RO	Recognize CRD is not running.
	PRO	Contact EO / FSV to investigate loss of CRD pump.

Op-Test No. ILT05-1Scenario No. 1Event No.: 8

Event Description: SLC Pipe Rupture

Time	Position	Applicant's Actions or Behavior
	RO	Recognize SLC discharge pressure is low and is not injecting to RPV. Give report to CRS.
	CRS	Direct the RO to secure the SLC pumps.
	RO	Secure the SLC pumps.

TERMINATION POINT

The scenario will be terminated when the following criteria are met:

1. An Emergency Blowdown has been performed per T-112 and RPV level has been stabilized.

SCENARIO #1**INITIAL CONDITIONS**

- Unit 1 is at 100% power

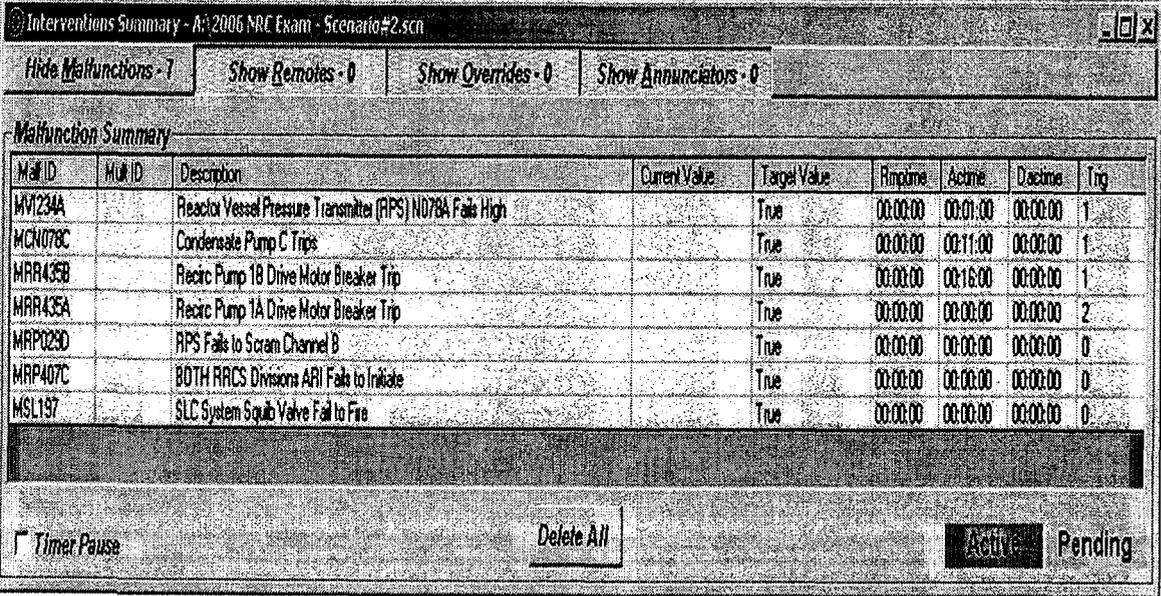
INOP / OUT OF SERVICE EQUIPMENT

- RCIC is out of service for bearing replacement. Estimated out of service time is approximately 24 hours. A regulatory log entry has been completed.

PLANNED EVOLUTIONS

- Maintain 100% power.

SCENARIO #2**I. SIMULATOR OPERATOR INSTRUCTIONS****A. INITIAL SIMULATOR SETUP**

✓	ITEM / MALFUNCTION / REMOTE FUNCTION / CONDITION																																																																								
	<ul style="list-style-type: none"> ■ Prepare simulator per TQ-AA-106-0301, Simulator Training Practices Job Aid 																																																																								
	<ul style="list-style-type: none"> ■ Reset Simulator to IC-41 																																																																								
	<ul style="list-style-type: none"> ■ Take out of FREEZE and ensure the following: <ul style="list-style-type: none"> - 95% power 																																																																								
	<ul style="list-style-type: none"> ■ If not embedded in IC-41, load Scenario "ILT NRC Scenario #2" from floppy disk labeled "2006 NRC EXAM" using A: drive. Ensure the following malfunctions are loaded: <ul style="list-style-type: none"> - MVI234A, active 1 minute after Trigger #1 is activated. - MCN078C, active 10 minutes after the "A" pressure instrument fails high (Trigger 1). - MRR435B, active 5 minutes after "1C" condensate pump trips (Trigger 1). - MRR435A, Trigger #2 activated after Tech Specs are referenced for the trip of the "1B" recirc pump AND when prompted by floor instructor. 																																																																								
	 <p>Interventions Summary - A: 2006 NRC Exam - Scenario#2.scn</p> <p>Hide Malfunctions - 7 Show Remotes - 0 Show Overrides - 0 Show Annunciators - 0</p> <p>Malfunction Summary</p> <table border="1"> <thead> <tr> <th>Mal ID</th> <th>MUI ID</th> <th>Description</th> <th>Current Value</th> <th>Target Value</th> <th>Rptime</th> <th>Actime</th> <th>Dactime</th> <th>Trig</th> </tr> </thead> <tbody> <tr> <td>MVI234A</td> <td></td> <td>Reactor Vessel Pressure Transmitter (RPS) ND78A Fails High</td> <td></td> <td>True</td> <td>00:00:00</td> <td>00:01:00</td> <td>00:00:00</td> <td>1</td> </tr> <tr> <td>MCN078C</td> <td></td> <td>Condensate Pump C Trips</td> <td></td> <td>True</td> <td>00:00:00</td> <td>00:11:00</td> <td>00:00:00</td> <td>1</td> </tr> <tr> <td>MRR435B</td> <td></td> <td>Recirc Pump 1B Drive Motor Breaker Trip</td> <td></td> <td>True</td> <td>00:00:00</td> <td>00:16:00</td> <td>00:00:00</td> <td>1</td> </tr> <tr> <td>MRR435A</td> <td></td> <td>Recirc Pump 1A Drive Motor Breaker Trip</td> <td></td> <td>True</td> <td>00:00:00</td> <td>00:00:00</td> <td>00:00:00</td> <td>2</td> </tr> <tr> <td>MRP023D</td> <td></td> <td>RPS Fails to Screen Channel B</td> <td></td> <td>True</td> <td>00:00:00</td> <td>00:00:00</td> <td>00:00:00</td> <td>0</td> </tr> <tr> <td>MRP407C</td> <td></td> <td>BOTH RRCS Divisions ARI Fails to Inhibit</td> <td></td> <td>True</td> <td>00:00:00</td> <td>00:00:00</td> <td>00:00:00</td> <td>0</td> </tr> <tr> <td>MSL197</td> <td></td> <td>SLC System Squib Valve Fail to Fire</td> <td></td> <td>True</td> <td>00:00:00</td> <td>00:00:00</td> <td>00:00:00</td> <td>0</td> </tr> </tbody> </table> <p>Timer Pause Delete All Active Pending</p>	Mal ID	MUI ID	Description	Current Value	Target Value	Rptime	Actime	Dactime	Trig	MVI234A		Reactor Vessel Pressure Transmitter (RPS) ND78A Fails High		True	00:00:00	00:01:00	00:00:00	1	MCN078C		Condensate Pump C Trips		True	00:00:00	00:11:00	00:00:00	1	MRR435B		Recirc Pump 1B Drive Motor Breaker Trip		True	00:00:00	00:16:00	00:00:00	1	MRR435A		Recirc Pump 1A Drive Motor Breaker Trip		True	00:00:00	00:00:00	00:00:00	2	MRP023D		RPS Fails to Screen Channel B		True	00:00:00	00:00:00	00:00:00	0	MRP407C		BOTH RRCS Divisions ARI Fails to Inhibit		True	00:00:00	00:00:00	00:00:00	0	MSL197		SLC System Squib Valve Fail to Fire		True	00:00:00	00:00:00	00:00:00	0
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	<ul style="list-style-type: none"> ■ Reset any annunciators that should not be present 																																																																								

B. INSTRUCTIONS FOR SIMULATOR OPERATOR**EVENT 1: "A" RPV Pressure Transmitter (RPS) Fails Upscale**

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Activate Trigger #1 after the crew takes the shift <u>and</u> when prompted by the floor instructor.
	<ul style="list-style-type: none"> ■ If Equipment Operator / Floor Supervisor contacted, wait 5 minutes and report back that the pressure transmitter trip unit (PIS-1N678A) is failed upscale.
	<ul style="list-style-type: none"> ■ If I&C / WWM contacted, report that failure will be investigated promptly.

EVENT 2: "1C" Condensate Pump Trips

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Ensure condensate pump trip trigger timer activates appropriately.
	<ul style="list-style-type: none"> ■ If Equipment Operator / Floor Supervisor contacted, wait 5 minutes and report to the crew that an overcurrent relay is tripped on the 11 bus for the "1C" condensate pump.
	<ul style="list-style-type: none"> ■ If I&C / WWM contacted, report that failure will be investigated promptly.

EVENT 3: "1B" Recirc Pump Trips

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Ensure recirc pump "1B" trip trigger timer activates appropriately.
	<ul style="list-style-type: none"> ■ If Equipment Operator / Floor Supervisor contacted, wait 5 minutes and report to the crew that the cause of the trip cannot be determined at this time.
	<ul style="list-style-type: none"> ■ If I&C / WWM contacted, report that failure will be investigated promptly.

EVENT 5: "1A" Recirc Pump Trips

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Activate trigger when prompted by floor instructor.
	<ul style="list-style-type: none"> ■ If Equipment Operator / Floor Supervisor contacted, wait 5 minutes and report to the crew that the cause of the trip cannot be determined at this time.
	<ul style="list-style-type: none"> ■ If I&C / WWM contacted, report that failure will be investigated promptly.

EVENT 6: ATWS – "B" RPS Fails to Trip, Both RRCS Channels Fail to Initiate ARI.

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Respond to request for assistance as appropriate.
	<ul style="list-style-type: none"> ■ If requested to perform T-215, remove malfunction MRP029D after the first "terminate and prevent" with Reactor level stable <u>AND</u> prompt from floor instructor.
	<ul style="list-style-type: none"> ■ If requested to perform T-216, wait 6 minutes and report back to the crew that the air valve is stuck closed.
	<ul style="list-style-type: none"> ■ If requested to perform T-270, wait 7 minutes load appropriate training scenario and report back that T-270 is complete.
	<ul style="list-style-type: none"> ■ If requested to perform T-221, wait 11 minutes load appropriate training scenario and report back that T-221 is complete.
	<ul style="list-style-type: none"> ■ If requested to perform T-251, wait 6 minutes respond as appropriate, load appropriate training scenario and report back that T-251 is complete

EVENT 7: SLC Squib Valve Failure to Fire

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Respond to request for assistance as appropriate.

Op-Test No. ILT05-1Scenario No. 2Event No.: 1

Event Description: "A" RPS Pressure Transmitter (RPS) Fails High

Time	Position	Applicant's Actions or Behavior
	RO	Reference ARC for annunciator 107 REACTOR G-1, REACTOR HI PRESS TRIP
	RO	Reference ARC for annunciator 108 REACTOR B-1, AUTO SCRAM CHANNEL A1
	RO	Recognize that the Reactor high pressure trip signal has resulted in an "A" RPS half scram.
	RO	Attempt to reset the RPS half scram.
	CRS	Direct dispatching EO / Floor Supervisor to investigate RPS high Reactor pressure trip units in AER.
	RO / PRO	Dispatch EO / Floor Supv to AER to investigate RPS high reactor pressure trip units.
	CRS	Reference Tech Spec 3.3.1 for the failed pressure instrument.

Op-Test No. ILT05-1Scenario No. 2Event No.: 2

Event Description: "1C" Condensate Pump Trips

Time	Position	Applicant's Actions or Behavior
	PRO	Recognize that the 1C condensate pump has tripped.
	PRO	Reference ARC for annunciator 104 COND G-1, 1C CONDENSATE PUMP MOTOR OVERCURRENT
	PRO	Reference ARC for annunciator 104 COND G-2, 1C CONDENSATE PUMP BREAKER TRIP
	RO	Reference ARC for annunciator 108 REACTOR A-4, OPRM TRIPS ENABLED
	PRO	Recognize that recirc is running back and report to the CRS.
	CRS	Enter OT-104 for the power drop.

Op-Test No. ILT05-1Scenario No. 2Event No.: 3.4

Event Description: "1B" Recirc Pump Trips

Time	Position	Applicant's Actions or Behavior
	PRO	Reference ARC for annunciator 112 CLEANUP E-1, 1B RECIRC M-G DRIVE MOTOR LOCKOUT TRIP
	PRO	Recognize the "1B" recirc pump has tripped and report the trip to the CRS.
	CRS	Enter OT-112, RECIRCULATION PUMP TRIP
	CRS	Recognize in the Restricted Region of the Power / Flow map.
	CRS	Direct RO to insert control rods IAW RMSI to exit the Restricted Region of the Power / Flow map.
	RO	Insert control rods IAW RMSI.
	CRS	Direct PRO to close the "1B" recirc pump discharge valve for 5 minutes.
	PRO	Close the "1B" recirc pump discharge valve for 5 minutes and then reopen the valve.
	PRO	Reopen the "1B" recirc pump discharge valve 5 minutes after it was closed.
	CRS	Reference Tech Spec 3.4.1.1 for Recirc Pump trip.

Op-Test No. ILT05-1Scenario No. 2Event No.: 5

Event Description: "1A" Recirc Pump Trips

Time	Position	Applicant's Actions or Behavior
	PRO	Reference ARC for annunciator 111 RECIRC E-1, 1A RECIRC M-G DRIVE MOTOR LOCKOUT TRIP
	PRO	Recognize the "1A" Recirc Pump has tripped and report the failure to the CRS.
	CRS	Continue with actions of OT-112 for trip of BOTH recirc pumps.
	CRS	Direct the RO to manually scram the Reactor.
	RO	Scram the Reactor and place mode switch in shutdown.

Op-Test No. ILT05-1Scenario No. 2Event No.: 6

Event Description: ATWS – "B" RPS Fails to Trip, Both RRCS Channels Fail to Initiate ARI

Time	Position	Applicant's Actions or Behavior
	RO	Recognize "B" RPS failed to de-energize.
	RO	Report to crew that the Reactor has failed to scram.
	RO	Manually initiate RRCS / ARI.
	CRS	Enter T-101 for scram condition with power greater than 4%.
	RO	Recognize that control rods did not insert.
	RO	Insert SRM's and IRM's.
	CRS	Direct RO to manually insert control rods and bypass the RWM as necessary.
CT	RO	Insert control rods with RWM bypassed.
	CRS	Direct performance of T-215, DE-ENERGIZATION OF SCRAM SOLENOIDS
	RO/PRO	Contact EO / Floor Supv to perform T-215
	CRS	Direct performance of T-216, MANUAL ISOLATION AND VENT OF SCRAM AIR HEADER
	RO/PRO	Contact EO / Floor Supv to perform T-216
	CRS	Enter T-117, LEVEL / POWER CONTROL
	CRS	Direct PRO to inhibit auto ADS.
CT	PRO	Inhibit both divisions of auto ADS.
	CRS	Direct performance of T-221 to maintain MSIV's open.
	RO/PRO	Contact EO / Floor Supv to perform T-221
	CRS	Direct performance of T-270 to terminate and prevent injection to reduce Reactor level to below -50".
	PRO	Perform T-270 to terminate and prevent HPCI injection.
	PRO	Contact EO / Floor Supv to perform T-270 in the AER to terminate and prevent low pressure ECCS injection.

Op-Test No. ILT05-1Scenario No. 2Event No.: 6

Event Description: ATWS – "B" RPS Fails to Trip, Both RRCS Channels Fail to Initiate ARI

Time	Position	Applicant's Actions or Behavior
CT	RO	Perform T-270 to terminate and prevent condensate and feedwater injection.
	CRS	Provide direction to the RO to re-inject as necessary to maintain RPV level in a band that is above –129" and at or below –50".
	RO	Re-inject with condensate / feedwater as necessary to maintain Reactor level in the band directed by the CRS.
	RO	Recognize that T-215 was successful and all control rods have fully inserted.
	CRS	Exit T-117 and enter T-101.
	CRS	Direct RO to maintain a new RPV level band of 12.5 to 54 inches.
	RO	Re-inject to the RPV to a level band of 12.5 to 54 inches.

Op-Test No. ILT05-1Scenario No. 2Event No.: 7

Event Description: SLC Squib Valve Failure to Fire

Time	Position	Applicant's Actions or Behavior
	RO	Recognize the SLC pumps have started and the squib valves have failed to fire. Report the failure to the CRS.
	CRS	Direct the RO to secure the SLC pumps.
	RO	Secure the 3 SLC pumps.
	CRS	Direct performance of T-212, BYPASSING SQUIB VALVES FOR SLC INJECTION
	RO/PRO	Contact EO / Floor Supv to perform T-212

TERMINATION POINT

The scenario will be terminated when the following criteria are met:

1. T-215 is performed to de-energize RPS resulting in a full Reactor scram.
2. Reactor level is stabilized between 12.5 and 54".

SCENARIO #2**INITIAL CONDITIONS**

- Unit 1 is at 95% power.
- Reactor Engineering is preparing a revised REMA to raise power to 100%. Estimated time of REMA completion is 15 minutes.

INOP / OUT OF SERVICE EQUIPMENT

- No inoperable equipment.

PLANNED EVOLUTIONS

- When REMA is completed, raise power to 100%.

SCENARIO #3**I. SIMULATOR OPERATOR INSTRUCTIONS****A. INITIAL SIMULATOR SETUP**

✓	ITEM / MALFUNCTION / REMOTE FUNCTION / CONDITION
	<ul style="list-style-type: none"> ■ Prepare simulator per TQ-AA-106-0301, Simulator Training Practices Job Aid
	<ul style="list-style-type: none"> ■ Reset Simulator to IC-42 <ul style="list-style-type: none"> - 5% Power
	<ul style="list-style-type: none"> ■ Place an information tag on the "1A" SRM bypass joystick.
	<ul style="list-style-type: none"> ■ Take out of FREEZE and ensure the following: <ul style="list-style-type: none"> - 5% Power - "1A" SRM is bypassed
	<p>If not embedded in IC-42, load Scenario "ILT NRC Scenario #3" from floppy disk labeled "2006 NRC EXAM" using A: drive. Ensure the following malfunctions are loaded:</p> <ul style="list-style-type: none"> MSR214F, active 1 minute after Trigger 1 is activated. - MED282A, active 10 minutes after IRM channel F fails upscale (Trigger 1). - VIC114A, active 15 minutes after fault on Div. I DC Bus (Trigger 1). - MRR441, Trigger 2 manually activated when 1B CRD pump is placed in service AND when prompted by floor instructor. - MMS067, Trigger 3 active when mode switch taken to shutdown.

✓
 ITEM / MALFUNCTION / REMOTE FUNCTION / CONDITION

Interventions Summary ☰

Hide Malfunctions - 7
Hide Remotes - 3
Show Overrides - 0
Show Annunciators - 0

Malfunction Summary

Mal ID	Mult ID	Description	Current Value	Target Value	Ramp Time	Active	Decline	Trig
MSR214F		IRM Channel F Fails to Selected Value	15.40947	125.0000		00:01:00		1
MED282A		Failure on D.C. Safeguard Bus 1AD105	False	True		00:11:00		1
MIC114A		1A Control Rod Drive Pump Imbalance at Probe 11.4A02	0.25	20.00000		00:25:00		1
MRRB447		Coolant Leakage in Drywell (0-300 gpm)	0.00	30.00000		00:02:00		2
RMS067		Steam Leak in Drywell (0-5000 gpm)	0.00	2500.000		00:04:00		3

Timer Pause

 Pending

Remotes Summary

Rem ID	Mult ID	Description	Current Value	Target Value	Ramp Time	Active	Trig
MSR214F		IRM Channel F Fails to Selected Value	15.40947	125.0000			
MED282A		Failure on D.C. Safeguard Bus 1AD105	False	True			
MIC114A		1A Control Rod Drive Pump Imbalance at Probe 11.4A02	0.25	20.00000			

Timer Pause

 Pending

■ Reset any annunciators that should not be present

B. INSTRUCTIONS FOR SIMULATOR OPERATOR**EVENT 1: Continue to Withdraw Control Rods**

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Activate Trigger #1 after crew continues with the startup <u>and</u> when prompted by floor instructor.

EVENT 2: IRM Channel "F" Fails Upscale

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Ensure IRM upscale trip trigger timer activates appropriately.
	<ul style="list-style-type: none"> ■ If Equipment Operator / Floor Supervisor contacted, wait 5 minutes and report back that IRM Channel "F" indicates failed upscale with no apparent reason.
	<ul style="list-style-type: none"> ■ If I&C / WWM contacted, report that failure will be investigated as soon as possible.

EVENT 3: Loss of Division 1 DC

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Ensure DC bus trip trigger timer activates appropriately.
	<ul style="list-style-type: none"> ■ If Equipment Operator / Floor Supervisor contacted, wait 5 minutes and report back that the Div. 1 DC bus is de-energized, there is no fire, but there is a smell of burned insulation.
	<ul style="list-style-type: none"> ■ If I&C / WWM contacted, report that failure will be investigated as soon as possible.
	<ul style="list-style-type: none"> ■ If requested, investigate steam flooding damper panel trouble alarms.

EVENT 4: "1A" CRD Pump High Vibration

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Ensure CRD pump high vibration trigger timer activates appropriately.
	<ul style="list-style-type: none"> ■ If Equipment Operator / Floor Supervisor contacted to investigate the high vibration, wait 5 minutes and report back that the outboard pump bearing is red hot and the pump is visibly shaking.
	<ul style="list-style-type: none"> ■ If Equipment Operator / Floor Supervisor contacted to prepare to start the "1B" CRD pump, wait 5 minutes and report back that the "1B" CRD pump is ready to start.
	<ul style="list-style-type: none"> ■ After the "1B" CRD pump is running, toggle "B" CRD pump discharge valve open.

EVENT 5: Coolant Leakage in Drywell

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Trigger 2 is activated after the "1B" CRD pump is started AND prompt from floor instructor.
	<ul style="list-style-type: none"> ■ Respond to request for assistance as appropriate.

EVENT 6: Steam Leak in Drywell

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	<ul style="list-style-type: none"> ■ Ensure Trigger 3 activates when Drywell pressure goes above 1.2 psig.
	<ul style="list-style-type: none"> ■ Respond to request for assistance as appropriate.
	<ul style="list-style-type: none"> ■ If requested, perform the field actions of SE-10. <ul style="list-style-type: none"> -Reset RHRSW Rad Monitor -Reset RE ARM's -Reset shunt trips -Perform running checks on the diesel generators

EVENT 7: "1D" Core Spray Pump Fails to Auto Start

✓	MALFUNCTION / REMOTE FUNCTION / REPORT
	■ If I&C / WWM contacted, report that failure to auto start will be investigated as soon as possible.
	■ Respond to other requests for assistance as appropriate.

Op-Test No. ILT05-1Scenario No. 3Event No.: 1

Event Description: Continue to Withdraw Control Rods

Time	Position	Applicant's Actions or Behavior
	CRS	Direct RO to continue the Reactor startup
	RO	Resume control rod withdrawal IAW GP-2.

Op-Test No. ILT05-1Scenario No. 3Event No.: 2

Event Description: IRM Channel "F" Fails Upscale

Time	Position	Applicant's Actions or Behavior
	RO	Recognize that IRM channel "F" has failed upscale resulting in a half scram and report the failure to the CRS.
	CRS	Direct RO to stop rod withdrawal.
	RO	Reference ARC for annunciator 107 Reactor H-3, IRM UPSCALE / INOPERABLE.
	CRS	Direct RO to bypass the "F" IRM and reset the half scram.
	RO	Bypass the "F" IRM.
	RO	Reset the half scram.
	CRS	Reference Tech Spec 3.3.1 and 3.3.6 for the failed instrument.

Op-Test No. ILT05-1Scenario No. 3Event No.: 3

Event Description: Loss of Division 1 DC

Time	Position	Applicant's Actions or Behavior
	PRO	Recognize the loss of Division 1 DC and report the failure to the CRS.
	PRO	Reference ARC for annunciator 120 D11 G-2, 1DA 250V DC MCC UNDERVOLTAGE
	RO	Reference ARC for annunciator 108 REACTOR H-1, STANDBY LIQUID TANK LO-LO LEVEL.
	RO	Reference ARC for annunciator 110 STEAM A-1, DIV 1 ADS OUT OF SERVICE.
	CRS	Enter E-1FA, LOSS OF DIVISION 1 SAFEGUARD 125 / 250 V DC BUS 1FA
	CRS	Direct dispatching EO / Floor Supervisor to investigate the loss of bus 1FA.
	CRS	Direct PRO to initiate a chlorine isolation.
	PRO	Initiate a chlorine isolation.
	CRS	Reference Tech Spec 3.8.3.1 for loss of DC bus 1FA and various LCO's for equipment lost off of DC bus 1FA.

Op-Test No. ILT05-1Scenario No. 3Event No.: 4

Event Description: "1A" CRD Pump High Vibration

Time	Position	Applicant's Actions or Behavior
	RO	Reference ARC for annunciator 107 REACTOR I-3, VIBRATION ALARM DANGER
	PRO	Investigate high vibration on VMS computer.
	PRO	Recognize that the "1A" CRD pump is indicating high vibration.
	CRS	Direct dispatching the EO / Floor Supervisor to check on the high vibration condition of the "1A" CRD pump.
	RO / PRO	Dispatch the EO / Floor Supervisor to investigate the high vibration on the "1A" CRD pump.
	CRS	When report comes back from the EO stating that the "1A" CRD pump has a hot bearing and is shaking, direct the RO trip the "1A" CRD pump and start the "1B" CRD pump.
	CRS	Enter ON-107, CONTROL ROD DRIVE SYSTEM PROBLEMS.
	RO / PRO	Direct the EO to perform startup checks on the "1B" CRD pump.
	RO	Start the "1B" CRD Pump.
	RO	Direct EO/ Floor Supervisor to open "1B" CRD discharge valve.

Op-Test No. ILT05-1Scenario No. 3Event No.: 5

Event Description: Coolant Leakage in Drywell

Time	Position	Applicant's Actions or Behavior
	PRO	Reference ARC for annunciator 115 COOL B B-5, DRYWELL COOLER DRAIN FLOW HIGH
	RO	Reference ARC for annunciator 107 REACTOR F-2, DRYWELL HI / LOW PRESS
	CRS	Enter OT-101, High Drywell Pressure.
	CRS	Direct PRO to maximize Drywell cooling and terminate Primary Containment inerting
	PRO	Verify Drywell cooling maximized and Primary Containment inerting is not in progress
	CRS	Direct PRO to isolate RWCU IAW OT-101.
	PRO	Isolate RWCU.

Op-Test No. ILT05-1Scenario No. 3Event No.: 6

Event Description: Steam Leak in Drywell / RPS Fails to Scram

Time	Position	Applicant's Actions or Behavior
	CRS	Enter T-101 and T-102 for high drywell pressure.
	RO	Recognize failure of RPS to scram Reactor.
	CRS	Direct RO to manually initiate RRCS / ARI
CT	RO	Arm and depress both divisions of RRCS initiation pushbuttons
	RO	Recognize that all rods inserted and inform the CRS
	CRS	Direct the crew to control RPV injection from ECCS and low pressure systems to prevent uncontrolled RPV flood up.
	PRO	Control injection into the RPV from ECCS that started.
	CRS	Enter SE-10 for the LOCA signal.
	RO / PRO	Dispatch EO / Floor Supervisor to perform SE-10 actions in the field.
	CRS	Direct PRO to spray the Suppression Pool per T-225 using RHR before Suppression Pool pressure reaches 7.5 psig.
	PRO	Spray the Suppression Pool per T-225.
	CRS	Direct PRO to bypass and restore drywell cooling when drywell air temperature reaches 145 degrees F.
	PRO	Bypass and restore drywell cooling.
	CRS	Enter T-112 when safe side of T-102 curve PC/P-3 cannot be maintained.
	CRS	Direct RO / PRO to open 5 ADS valves.
CT	RO / PRO	Open 5 ADS valves.
	CRS	Direct PRO to spray the Drywell per T-225.
CT	PRO	Spray the Drywell per T-225.

Op-Test No. ILT05-1Scenario No. 3Event No.: 7

Event Description: "1D" Core Spray Pump Fails to Auto Start

Time	Position	Applicant's Actions or Behavior
	PRO	Recognize that the "1D" Core Spray Pump did not auto start and report failure to CRS.
	PRO	Start the "1D" Core Spray Pump.

TERMINATION POINT

The scenario will be terminated when the following criteria are met:

1. Drywell spray is in progress and Drywell pressure is lowering.

SCENARIO #3

INITIAL CONDITIONS

- Unit 1 is at 5% power with a startup in progress after a refueling outage.
- Reactor pressure is 390 psig with 2½ BPV's open (pressure set in control)
- 1A and 1B RFP are in standby with the LIC-006-120 controller in AUTO
- 1A and 1B condensate pumps are running
- 1B and 1C circulating water pumps are running
- Main Turbine is in shell warming
- 1A and 1B recirculation pumps are at 28% speed
- 1A RWCU pump is in service
- 1A SJAE in service with vacuum at 29" Hg
- Drywell closure is complete

INOP / OUT OF SERVICE EQUIPMENT

- "1A" SRM is inoperable and bypassed, with repairs in progress.

PLANNED EVOLUTIONS

- Continue with the startup / heatup at step 3.3.29 of GP-2.
- Control rod withdrawal will continue with rod 18-59 (00 to 12).