LaSalle County Station

LICENSED OPERATOR EVALUATED SCENARIO GUIDE

21-1 ILT NRC Exam

Scenario 1

Rev. 0

12/16/2022

DEVELOPED BY:	Exam Author	4/13/23 Date
VALIDATED BY:	SME/Tech Reviewer	4/13/23 Date
REVIEWED BY:	Training Department	4/13/23 Date
APPROVED BY:	Facility Representative	4/14/23 Date

SRRS 3D.126/3D.111: Retain approved lessons for life of plant OR Life of Insurance Policy + 1 Yr for RP lesson plans. May be retained in department for two years, then forwarded to Records Management.

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Form 3.3-1 Scenario Outline

Facility:	LaSalle	Scenario #:	NRC Scenario 1
Scenario Source:	New	Op. Test #:	2023301
Examiners:		Applicants/ Operators:	
Initial Conditions:	Unit 1 is at 100% power. The 1W MPT Cooling Bank 3 OOS for scheduled maintenance. 1B WT pump OOS for coupling replacement.		
Turnover:	Perform VG Inservice test IAW LOS-VG-M1 Attachment 1A.		
Critical Tasks:	Initiate Chamber sprays prior to Drywell sprays IAW LGA-003 to minimize the impact of chugging in the downcomers. With MSIVs closed and all decay heat from the RPV going into Primary containment, start Suppression Pool cooling prior to Suppression Pool Temperature reaching 110F. . With a failure of HPCS to start automatically on high drywell pressure, manually start HPCS prior to RPV level reaching TAF.		

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	N (BOP)	Perform Standby Gas Inservice test IAW LOS-VG-M1, Attachment 1A
2	MNB080	I (BOP) TS (SRO)	Spurious RCIC initiation, secure RCIC IAW LOP-RI-03. SRO review TS 3.5.3 and 3.3.5.3.
3	MRD282	I / MC (ATC)	CRD flow erratic with controller in Auto, Control flow in manual mode
4	K6M02JP8 R0401 R0463	C (BOP)	Trip of iso phase bus duct cooling fan, start redundant fan IAW LOR-1PM01J-A115
5	R0340	R (ATC)	1W MPT Transformer high temp > 120 C. LOA-TRAN-101 will require a reduction in power to < 96% IAW LGP-3-1
6	K2L06P3I	C (ATC) TS (SRO)	‘1A’ Recirc Pump FCV drifting open, lock ‘1A’ FCV. SRO evaluates TS 3.4.1 for applicability
7	MRC033	M (ALL)	LOCA (RR loop)
8	MES005 MES037	C / MC (ATC)	HPCS pump failure (fails to auto-start)
9	MEE041	M (ALL)	Loss of SAT

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor, (TS)Tech Spec, (MC)Manual Control

Facility: LaSalle County Generating Station **Scenario #: Scenario 1**

PURPOSE

To evaluate the ILT candidate's ability to operate the plant in normal, abnormal, and emergency conditions.

SUMMARY OF EVENTS

1. Perform Standby Gas Treatment Inservice test IAW LOS-VG-M1.
2. RCIC will spuriously initiate requiring the crew to secure RCIC IAW LOP-RI-03. The US will evaluate TS 3.5.3 and 3.3.5.3.
3. CRD Flow Control Valve will fail closed requiring the crew to place the Flow Controller in Manual to restore parameters.
4. The 1A Isophase Bus Duct Cooling fan will trip requiring the crew to start the standby fan per the alarm response procedure.
5. The 1W MPT Transformer will alarm on high temperature >120°C requiring the crew to reduce power for transformer loading.
6. The 1A Reactor Recirculation Pump Flow Control Valve will drift open requiring the crew to lock up the FCV. The US will evaluate TS 3.4.1 and will enter TS 3.4.1 if RR jet pump flows are >5.425 Mlbm/hr mismatch.
7. A small RR LOCA will develop in the drywell requiring the crew to insert a manual scram and initiate Suppression Chamber Sprays.
8. The HPCS pump will fail to auto-start on high drywell pressure requiring the crew to manually start the pump.
9. The SAT will trip 30 seconds after the manual scram. This will cause the MSIVs to close directing all heat from the RPV to the primary containment. Further, this will remove all high-pressure injection systems expect HPCS.

CRITICAL TASKS

1. Initiate Chamber sprays prior to Drywell sprays IAW LGA-003 to minimize the impact of chugging in the downcomers.
2. With MSIVs closed and all decay heat from the RPV going into Primary containment, start Suppression Pool cooling prior to Suppression Pool Temperature reaching 110F.
3. With a failure of HPCS to start automatically on high drywell pressure, manually start HPCS prior to RPV level reaching TAF.

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INITIAL SIMULATOR SETUP/ REQUIRED DOCUMENTATION

1. Recall IC 243, 100% Power. Password 1243.
2. Place simulator in RUN.
3. Load and run the SmartScenario file **Scenario 1.ssf.**
4. Update the Tech Spec Timeclock Sheet as follows:

TS/TRM/ODCM	System/ Component	Required Action	REQUIRED ACTION Description	Completion Time	Expiration Date/Time

5. Verify two copies (per crew) of LOS-VG-M1 are available and marked up through D.11. All Attachment 2's do not need to be printed.
6. Verify IST Binder from Sim Floor available for Crew Turnover.
7. Place the 1B WT pump is OOS with an OOS card on the C/S, and a protected path ring on 1A WT Pump.
8. Perform the pre-scenario checklist (TQ-LA-155-J001).

SCENARIO OUTLINE (NRC Evaluations Only)

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	N (BOP)	Perform Standby Gas Inservice test IAW LOS-VG-M1, Attachment 1A
2	MNB080	I (BOP) TS (SRO)	Spurious RCIC initiation, secure RCIC IAW LOP-RI-03. SRO review TS 3.5.3 and 3.3.5.3.
3	MRD282	I / MC (ATC)	CRD flow control valve fails closed
4	K6M02JP8 R0401 R0463	C (BOP)	Trip of iso phase bus duct cooling fan, start redundant fan IAW LOR-1PM01J-A315
5	R0340	R (ATC)	1W MPT Transformer high temp > 120 C. LOA-TRAN-101 will require a reduction in power to < 96% IAW LGP-3-1
6	K2L06P3I	C (ATC) TS (SRO)	1A Recirc Pump FCV drifting open, lock '1A' FCV. SRO evaluates TS 3.4.1 for applicability
7	MRC033	M (ALL)	LOCA (RR loop)
8	MES005	C / MC (BOP)	HPCS pump fails to auto-start
9	MEE041	M (ALL)	Loss of SAT

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor, (TS)Tech Spec, (MC)Manual Control

APPROXIMATE SCENARIO RUN TIME

80 minutes

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Event - 1		
Description: VG Inservice Test		
Initiation: Following the crew assuming the shift		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required

	BOP	Per LOS-VG-M1 Attachment 1A:
		• RECORD elapsed time on U1 SBGT Primary Fan Run Timer from 1PM07J
		• PERFORM the following to open and time 1VG001, U1 SBGT Inlet Isol Vlv from Panel 1PM07J:
		  • OPEN and MEASURE 1VG001 valve stroke time to the nearest tenth second
		  • CHECK stroke time within the allowable limits, REFER to page(s) obtained in Step B.1.5 from the LaSalle IST Surveillance Acceptance Criteria Manual
		• START 1VG01C, U1 SBGT Primary Fan and RECORD fan start time and date:
		• MEASURE 1VG003 stroke time to the nearest tenth second:
		  • CHECK stroke time within the allowable limits, REFER to page(s) obtained in Step B.1.5 from the LaSalle IST Surveillance Acceptance Criteria Manual
		• VERIFY the following at 1PM07J
		  • 1VG002Y, U1 SBGT Flow Cont Vlv, THROTTLED
		  • System flow 3600-4400 scfm
		  • 1VG01A, U1 SBGT Elec Heating Coil is ON

	US	• Directs the actions above

Event - 1
Description: VG Inservice Test

Simulator Operator Actions	
None	

Simulator Operator Role Play
As Equipment Operator, if required, inform the MCR, “All personnel are clear of U1 VG Train and I am ready for system start.”
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR’s
Event 2 - RCIC will initiate two minutes after VG Heater energizes.
Terminus: VG running correctly as verified by system parameters.

Event - 2		
Description: Spurious RCIC Initiation		
Initiation: Automatically Per Scenario		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Monitors power, pressure, and level and reports trends to the US

	BOP	• Identifies alarm 1H13-P601-D406, RCIC Running, and updates crew
		
		Per LOR-1H13-P601-D406:
		• If RCIC injection is inadvertent or NOT desired, PERFORM the following:
		  • TRIP RCIC Turbine
		  • VERIFY 1E51-F013/1E51-F065 are full closed
		  • SHUTDOWN RCIC per LOP-RI-03
		• REFER to Tech Specs 3.3.5.3 and 3.5.3

	US	• Directs the above actions
		• Updates Shift Manager on current plant status
		• Reviews and enters **TS 3.5.3:**
		  • **RA A.1 – Verify by administrative means High Pressure Core Spray System is OPERABLE – Immediately**
		  • **RA A.2 – Restore RCIC System to OPERABLE status within 14 Days**
		• Reviews TS 3.3.5.3

Event - 2
Description: Spurious RCIC Initiation

Simulator Operator Actions	
Automatically	**Spurious RCIC Initiation**

Simulator Operator Role Play
As Equipment Operator, when dispatched to investigate RCIC Corner Room and Instrument racks, **wait 4 minutes** and report, “I see nothing abnormal locally for RCIC.”
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR’s
Terminus: RCIC secured, TS determinations made.

Event - 3		
Description: CRD Flow Control Valve Fails Closed		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**

	ATC	• Identifies alarm 1H13-P603-A403, Control Rod Drive Hydraulic Temperature High, 1A CRD Flow Control Valve failed closed, and updates crew
		
		Per LOA-RD-101:
		• CHECK no control rods drifting
		• CHECK the following CRD parameters NORMAL:
		  • CRD system flow approximately 63 gpm
		  • Cooling Header $\Delta P < 30$ psid
		  • Drive Water Header $\Delta P < 600$ psid
		• TRANSFER Flow Controller, 1C11-R600, to MANUAL
		• ADJUST Flow Controller Output using OPEN/CLOSE pushbuttons to RESTORE parameters to NORMAL
		• THROTTLE Drive Water PCV 1C11-F003 as required to restore parameters to NORMAL

	BOP	Per LOR-1H13-P603-A403: • At Control Room Panel 1H13-P603, VERIFY CRD Cooling Water flow is in normal range • At Control Room Panel 1H22-P007, on CRD/RX Vessel Temperature Recorder, DETERMINE which of CRDs initiated alarm • Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required
	US	• Directs ATC NSO to enter LOA-RD-101 • Updates Shift Manager on current plant status

Event - 3
Description: CRD Flow Control Valve Fails Closed

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release 'CRD FCV Fails Closed'**

Simulator Operator Role Play
Acknowledge reports as required.

NRC Evaluator Cue
Note: The CRD/RX Vessel Temperature Recorder on 1H22-P007 does not work. Use the following Role Plays as needed: When BOP NSO checks CRD/RX Vessel Temperature Recorder, inform them that seven CRDs are alarming at 253°F and rising slowly. Once the FCV Controller is in Manual and CRD parameters are restored, if the BOP NSO checks CRD temperatures, inform them that all CRD temperatures are <250°F and trending down.
Terminus: CRD Flow Controller in Manual and CRD parameters restored.

Event - 4		
Description: 1A Iso Phase Bus Duct Fan Trip		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required
	BOP	• Identifies alarm 1PM01J-A115, Isolated Phase Bus Trouble, 1PM01J-A315, Isolated Phase Bus Duct Temp Hi, 1A Bust Duct Fan tripped, and updates crew Per LOR-1PM01J-A315: • START Standby Isolated Phase Bus Duct Cooler Fan • DISPATCH operator to Isolated Phase Bus Duct Cooler Fan Area to verify proper operation of system per LOP-GA-02 • Direct EO to INITIATE a Special Log to monitor Bus Duct temperature per LOP-GA-02
	US	• Directs actions above • Updates Shift Manager on current plant status

Event - 4
Description: 1A Iso Phase Bus Duct Fan Trip

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release 'A Iso Phase Fan Trip'**

Simulator Operator Role Play
As Equipment Operator, when directed to investigate 1A Iso Phase Bus Duct Fan trip, **wait 2 minutes** and report, "The 1A Iso Phase Bus Duct Fan tripped on overcurrent."
As Equipment Operator, if directed to perform post-start checks on 1B Iso Phase Bus Duct Fan, **wait 2 minutes** and report, "Post-start checks on the 1B Iso Phase Bus Duct Fan are SAT."
As Equipment Operator, when directed to perform LOP-GA-02, **wait 2 minutes** and report, "LOP-GA-02 is complete. Highest temperature was 168°. All temperatures are trending down."
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: 1B Iso Phase Bus Duct Fan running.

Event - 5		
Description: 1W MPT High Temperature		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required • Lowers power ≤96% per LOA-TRAN-101 and LGP-3-1 as directed by the US
	BOP	• Identifies alarm 1PM01J-A203, Main Transformer 1 West Trouble, and updates crew • Dispatches EO to 1W MPT to investigate alarm Per LOR-1PM01J-A203: • DISPATCH operator to MPT 1W to check transformer parameters • REFER to LOA-TRAN-101 for corrective actions Per LOA-TRAN-101: • CHECK MPT Hot Spot temperature remains below 140°C while continuing this subsection • CHECK at least one cooler bank - in operation. (one pump and assoc. fans) • CHECK MPT Hot Spot temperature below 120°C • REDUCE transformer load to reduce MPT Hot Spot temperature <120°C • RECORD time transformer temperature exceeded 120°C • REDUCE power per LGP-3-1 to maintain power below limits listed in Att. E • CONTACT System Engineering and EMD for transformer repairs

	US	• Directs BOP NSO to enter LOA-TRAN-101 • Determines that the 1W MPT can operate at full load for 83 minutes and can operate permanently at 96% load based on number of coolers in service • Directs ATC BOP to reduce power to at least 96% • Establishes Critical Parameter on MPT Loading • May notify Gen Dispatch of power reduction • Updates Shift Manager on current plant status

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Event - 5
Description: 1W MPT High Temperature

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release '1W MPT High Temp'**
When Power has been lowered 100 MWe	**Release '1W MPT High Temp Clear'**

Simulator Operator Role Play
As Equipment Operator, when directed to investigate 1W MPT, **wait 2 minutes** and report, "The 1W MPT has a hot spot at 125°C and rising 1 degree every two minutes."
As Equipment Operator, when asked the status of the cooler banks, report, "The pump for Bank 6 has tripped and will not restart. Bank 3 is not ready to be restored. The remaining banks pumps and fans are running."
As Equipment Operator, when asked for outside ambient temperature, report "Outside air temperature is 86°F."
After initial down power, if the crew stops lowering power prior to 100 MWe inform them temperature is at 125°C and stable.
When power has been lowered by 100 MWe, perform Sim Op action above then call and inform the crew, "Temperature is 115°C and lowering"
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: Power lowered at least 100 MWe, or per Lead Evaluator.

Event - 6		
Description: 1A RR Flow Control Valve Drifts Open		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**

	ATC	• Identifies 1A RR FCV drifting and locks up the FCV
		  • PRESS 1A HPU TRIP pushbutton
		  • Lockup solenoid valve at 1DS001
		  • Stop HPU Pump at 1DS001
		• Updates crew on drifting FCV and locking up the FCV
		• Informs US of current power, pressure, and level
		• Refers to LOA-PWR-101

	BOP	Per LOA-RR-101 Section B.5:
		• REFER to LOA-PWR-101
		• CHECK recirculation loop jet pump flows - LESS THAN TECH SPEC MISMATCH
		• At 1DS001, initiate TADS by DEPRESSING TDR icon
		• CHECK instrumentation for fuel damage
		• Direct QNE to EVALUATE core performance
		
		Per LOA-RR-101 Section B.10:
		• CHECK OPRM – OPERABLE
		• CHECK recirculation loop jet pump flows - LESS THAN TECH SPEC MISMATCH:
		  • Within 5.425 Mlb/hr as read from 1B21-R611A/B, if core flow is greater than or equal to 75.95 Mlbm/hr
		• Within 1 hour either:
		  • RESTORE flow mismatch by continuing at B.10.3
		  • REDUCE power rapidly per LGP-3-1, Power Changes, including shifting both RR Pumps to slow speed
		  • TRIP the low-flow RR Pump per Step B.10.4.2
		• START 2 hour timeclock either to RESTORE the flow mismatch OR to DECLARE one RR loop Not in Operation per Tech Spec 3.4.1 Condition B

		• CHECK 1B FCV - NOT Locked-Up • PERFORM the following until RR loop flows are less than TECH SPEC MISMATCH as directed by the US: • PUSH RAISE pushbutton on loop M/A station with the lowest flow
	US	• Directs BOP NSO to enter LOA-RR-101 • Directs ATC NSO to enter LOA-PWR-101 • Reviews TS and enters **3.4.1** if applicable: • **RA B.1 – Declare the recirculation loop with lower flow to be "not in operation" within 2 Hours** • Updates Shift Manager on current plant status

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Event - 6
Description: 1A RR Flow Control Valve Drifts Open

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release 'A RR FCV Drifts Open'**

Simulator Operator Role Play
As Equipment Operator, if directed to investigate 1A RR HPU, **wait 3 minutes** and report, "There is nothing abnormal with 1A RR HPU".
As Equipment Operator, if asked for hot spot temperature reading on 1W MPT, report, "Temperature is currently 118°C and steady."
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: 1A RR FCV locked up and TS determinations made.

Event - 7		
Description: RR LOCA		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**

	ATC	• Identifies Primary Containment Pressure high alarm and updates crew
		• Inserts a manual scram as directed by the US:
		  • ARM and DEPRESS Scram buttons
		  • PLACE Reactor Mode Switch to SHUTDOWN
		• INSERT IRMs and SRMs
		• CHECK all Control Rods in and power decreasing
		• INFORM Supervisor of Control Rod Status and Reactor Power
		• Maintains RPV level band of 20 to 50 inches using FW/ECCS as directed by US
		• Maintains RPV pressure band of 800 to 1000 psig using EHC as directed by US

	BOP	• May identify rising containment pressure and update crew • Performs Scram Choregraphy • VERIFY Main Turbine/Generator Trip • Starts Suppression Chamber Sprays as directed by US **(CT-1)** Per LGA-RH-103 Hardcard: • VERIFY 1A/1B RHR Pump is running • OPEN 1E12-F027A/B • Maximizes Suppression Pool Cooling as directed by US **(CT-2)** Per LGA-RH-103 Hardcard: • VERIFY 1A/1B RHR Pump is running • OPEN 1E12-F027A/B

		• OPEN 1A/1B RHR Hx Service Water Outlet Valve: o 1E12-F068A o 1E12-F068B • At approximately 9 to 10 seconds after taking the 1E12-F068A/B switch to OPEN, START first RHR Service Water Pump • 1A RHR: o Service Water Pump A o Service Water Pump B • 1B RHR: o Service Water Pump C o Service Water Pump D • When indicated flow reaches 3000 gpm, START second RHR Service Water Pump • START 1A/1B RHR Pump • ESTABLISH RHR flow of at least 7200 gpm • THROTTLE 1E12-F024A/B OPEN • CLOSE 1E12-F048A/B by placing A/B HTX Bypass Throttle/Seal in switch to SEAL IN and CLOSE 1E12-F048A/B
	US	• Enters LGA-001 and directs actions • Directs ATC NSO to maintain RPV level band of 20 to 50 inches using FW/ECCS, and pressure band of 800 to 1000 psig using EHC • Enters LGA-003 and directs actions • Directs BOP NSO to start Suppression Chamber Sprays **(CT-1)** • Directs BOP NSO to establish two loops of Suppression Pool Cooling **(CT-2)**

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Event - 7
Description: RR LOCA

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release 'RR LOCA'**

Simulator Operator Role Play
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: Continues to next Event.

Event - 8		
Description: HPCS Pump Fails to Auto Start		
Initiation: Automatically per scenario		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Continues with actions from previous Event
	ATC	• Identifies HPCS failed to auto-start on high drywell pressure and updates crew • Coordinates with ATC NSO to determine if HPCS is needed for level control • Starts HPCS and verifies system response
	US	• Continues directing actions of LGA-001 and LGA-003

Event - 8
Description: HPCS Pump Fails to Auto Start

Simulator Operator Actions	
Built into SmartScenario	**HPCS Fails to Auto Start**

Simulator Operator Role Play
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: Continues to next Event

Event - 9		
Description: Loss of SAT		
Initiation: Automatically per scenario		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Maintains RPV level band of -30 to 50 inches using HPCS • Maintains RPV pressure band of 800 to 1000 psig using SRVs • Monitors control room panels and notifies the US of any unusual or unexpected conditions
	BOP	• Identifies loss of the SAT and updates crew Per LOA-AP-101 Section B.1: • Verify SAT 142 Live (No) • Verify 141Y Live (Yes) • Verify 141Y or 142Y powered from UAT (No) • Enter LOA-LOOP-101 Per LOA-LOOP-101: • CHECK Division 1 and/or Division 2 EDG supplying their respective ESS buses • Start at least one loop of Suppression Pool Cooling per LGA-RH-103 Hardcard • VERIFY CLOSED MSIV's and MSL Drain Valves • VERIFY all DG's running supplying power to their respective Bus • VERIFY a CRD Pump is running
	US	• Directs BOP NSO to enter LOA-AP-101 • Directs BOP NSO to enter LOA-LOOP-101 • Directs ATC NSO to maintain RPV level -30 to 50 inches using HPCS and RPV pressure band of 800 to 1000 psig using SRVs • Continues directing actions of LGA-001 and LGA-003

Event – 9
Description: Loss of SAT

Simulator Operator Actions	
Built into SmartScenario	**Loss of SAT**

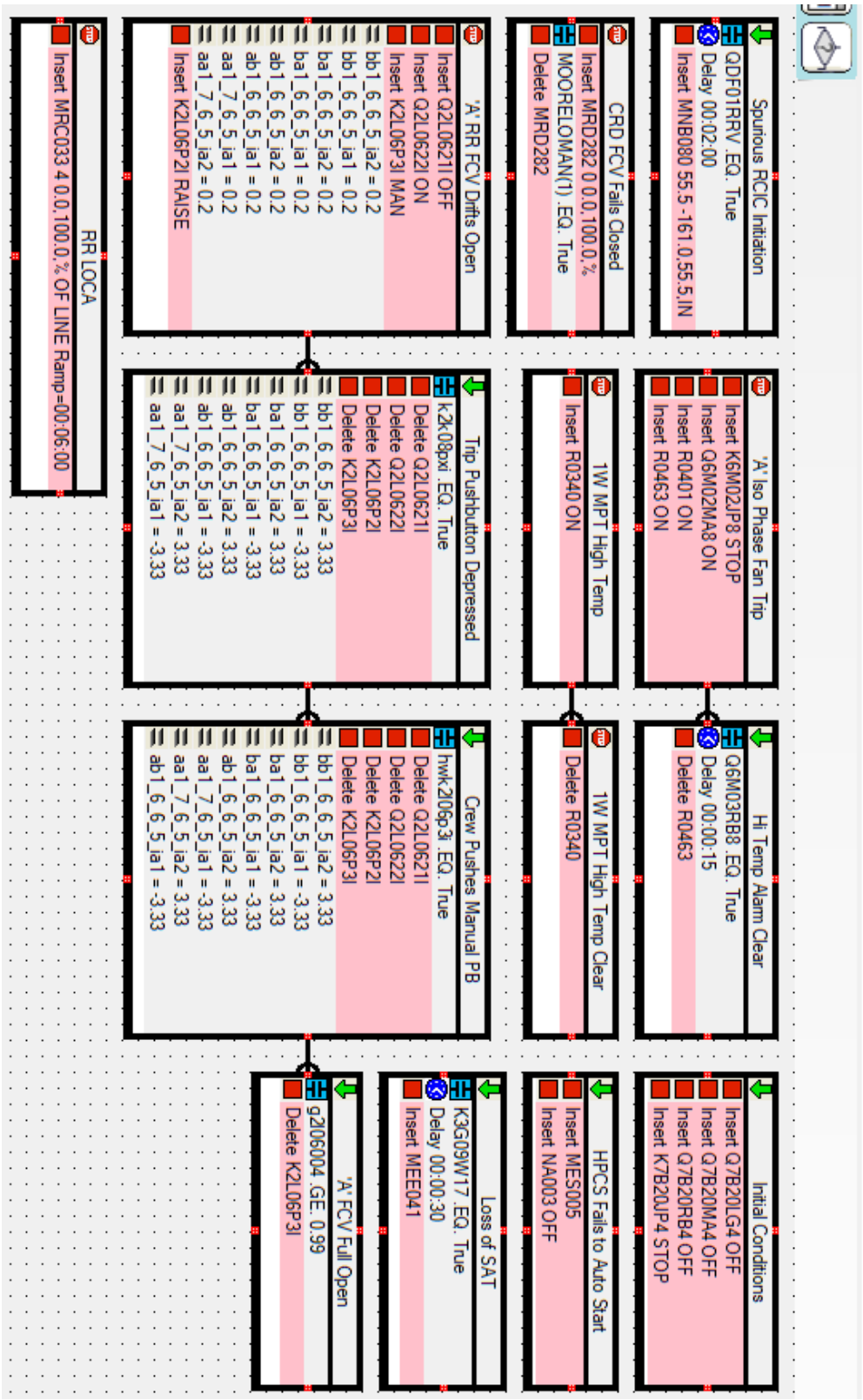
Simulator Operator Role Play
As Unit 2, if called asking the status of the 0DG CWP, report, “The common DG Cooling Water Pump is running on Unit 2.”
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR’s
Terminus: RPV level in band of -30 to 50 inches, Suppression Chamber Sprays and Suppression Pool Cooling established, or per Lead Evaluator

REFERENCES

Procedure	Title
1. INPO 15-004	Operations Fundamentals
2. IER 17-5	Line of Sight to the Core
3. LGA-001	RPV Control
4. LGA-003	Primary Containment Control
5. LOA-AP-101	Unit 1 AC Power System Abnormal
6. LOA-LOOP-101	Loss of Off-site Power
7. LOA-RD-101	Control Rod Drive Abnormal
8. LOA-RR-101	Unit 1 Reactor Recirculation System Abnormal
9. LOA-TRAN-101	Unit 1 Transformer Trouble
10. LOP-RI-03	Reactor Core Isolation Cooling System Isolation And System Shutdown
11. LOR-1H13-P601-D406	Reactor Core Isolation Cooling Running
12. LOR-1H13-P603-A403	Control Rod Drive Hydraulic Temperature High
13. LOR-1PM01J-A115	Isolated Phase Bus Trouble
14. LOR-1PM01J-A203	Main Transformer 1 West Trouble
15. LOR-1PM01J-A315	Isolated Phase Bus Duct Temp Hi
16. LOS-VG-M1	Standby Gas Treatment System Operability And Inservice Test
17. LGA-RH-103	Unit 1 A/B RHR Operations in the LGAs/LSMAGs
18. LGP-3-1	Power Changes
19. LGP-3-2	Reactor SCRAM
20. LPGP-PSTG-07	Plant Specific Technical Guidelines And Plant-Specific Severe Accident Guidelines Volume VII, LGA-Related Hard Cards
21. OP-LA-101-111-1002	LaSalle Operations Philosophy Handbook
22. OP-LA-103-102-1002	Strategies for Successful Transient Mitigation
23. OP-AA-106-101	Significant Event Reporting

SMARTSCENARIO FILE



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U1 SUPERVISOR TURNOVER

Shift: **Days**
Date: **Today**
Mode: **1**
OLR: **Green**
Work Week: **Div 1**

Unit 1 power level

- 100 % Power
-
-
-

Unit 2 power level

- 100 % Power
-
-
-

U1 Thermal Limit Issues /Power Evolutions

- None

U2 Thermal Limit Issues /Power Evolutions

- None

Existing LCOs, date of next surveillance

- None

Existing LCOs, date of next surveillance

- None

LOSs in progress or major maintenance

- LOS-VG-M1, VG System Operability and Inservice Test

LOSs in progress or major maintenance

- None

⇒ **Equipment removed from service or currently unavailable**

- 1B WT Pump OOS for coupling replacement
- 1W MPT Cooling Bank 3 OOS for scheduled maintenance

- None

Grid Status is Green

⇒ **Comments, evolutions, problems, etc.**

- Continue with LOS-VG-M1 starting at Step 2.1 of Attachment 1A

⇒ **Comments, evolutions, problems, etc.**

- Non-Div Workweek. OLR is Green

LaSalle County Station

LICENSED OPERATOR EVALUATED SCENARIO GUIDE

21-1 ILT NRC Exam

Scenario 2

Rev. 0

12/16/2022

DEVELOPED BY:	Exam Author	4/13/23 Date
VALIDATED BY:	SME/Tech Reviewer	4/13/23 Date
REVIEWED BY:	Training Department	4/13/23 Date
APPROVED BY:	Facility Representative	4/14/23 Date

SRRS 3D.126/3D.111: Retain approved lessons for life of plant OR Life of Insurance Policy + 1 Yr for RP lesson plans. May be retained in department for two years, then forwarded to Records Management.

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Form 3.3-1 Scenario Outline

Facility:	LaSalle	Scenario #:	NRC Scenario 2
Scenario Source:		Op. Test #:	2023301
Examiners:		Applicants/ Operators:	
Initial Conditions:	Unit 1 is at 54% power. S/D in progress for Refueling Outage per LGP-2-1, Core Flow at 70 Mlb/hr, 2nd Stage Reheat has been secured.		
Turnover:	Startup the RR LFMG Sets IAW LOP-RR-08 in preparation for RR downshift. The MDRFP is in operation and 1A TDRFP secured. Continue reactor shutdown IAW LGP-2-1.		
Critical Tasks:	With a primary system discharging into the secondary containment, and discharge cannot be isolated or isolation attempt failed, scram the reactor prior to radiation or temperature in any area exceeding Max safe. With conditions present to Emergency Depressurize IAW LGA-002 based on two areas trending towards max safe, blowdown using anticipation of blowdown or Emergency Depressurization within 10 minutes of two areas exceeding Max Safe temperatures.		

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	R (ATC)	Insert rods to 61% rod line
2	N/A	N (BOP)	Startup the RR LFMG Sets per LOP-RR-08
3	N/A	R (BOP)	Downshift RR pumps per LOP-RR-08
4	MGC001 MGC004	MC (BOP)	1A GC Pump TRIP/Stby Fails to Auto-start
5	MRD106	C (ATC) TS (SRO)	Control Rod drifting out
6	MRD280	C (ATC)	Trip of 1A CRD Pump
7	K1P24WBL R0275	C (BOP) TS (SRO)	Spurious LPCS initiation
8	MRW010 MEE050 VMRW001R VMRW004R VMRW100R VMRW106R VTRW102R	M (ALL)	RB Rad Hi / RT leak / RT fails to Isolate, Main Turbine Fails to trip
9	VPAD13RR VPAD13VR	M (ALL)	RWCU leak, 2 areas above max safe, Emergency Depressurization, 2 SRVs fail to open

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor, (TS)Tech Spec, (MC)Manual Control

Facility: LaSalle County Generating Station **Scenario #: Scenario 2**

PURPOSE

To evaluate the ILT candidate's ability to operate the plant in normal, abnormal, and emergency conditions.

SUMMARY OF EVENTS

1. ATC NSO will insert control rods to 61% rod line for RR Pump Downshift.
2. Startup the RR LFMG Sets per LOP-RR-08.
3. The crew will downshift the RR Pumps IAW LOP-RR-08.
4. The 1A GC Pump will trip and the standby fails to auto-start requiring the crew to manually start the 1B GC Pump.
5. Rod 46-31 will start drifting out requiring the crew to insert the control rod and maintain the insert button depressed.
6. The 1A CRD Pump will trip requiring the crew to immediately start the 1B CRD Pump.
7. LPCS will spuriously initiate requiring the crew to secure the pump and place it in PTL.
8. A leak will occur from RWCU into secondary containment. The leak will fail to isolate and drive RB temps above max normal requiring the crew to insert a manual scram prior to reaching max safe. The Main Turbine will fail to trip on reverse power requiring the crew to manually trip the Turbine.
9. The RWCU leak will drive two areas above max safe in the RB requiring the crew to initiate an Emergency Depressurization. Two ADS SRV's will fail to open requiring the crew to manually open two additional SRV's for a total of seven SRV's open.

CRITICAL TASKS

1. With a primary system discharging into the secondary containment, and discharge cannot be isolated or isolation attempt failed, scram the reactor prior to radiation or temperature in any area exceeding Max safe.
2. With conditions present to Emergency Depressurize IAW LGA-002 based on two areas trending towards max safe, blowdown using anticipation of blowdown or Emergency Depressurization within 10 minutes of two areas exceeding Max Safe temperatures.

SRRS 3D.126/3D.111: Retain approved lessons for life of plant OR Life of Insurance Policy + 1 Yr for RP lesson plans. May be retained in department for two years, then forwarded to Records Management.

INITIAL SIMULATOR SETUP/ REQUIRED DOCUMENTATION

1. Recall IC 240, 54% Power. Password 1240.
2. Place simulator in RUN.
3. Load and run the SmartScenario file **Scenario 2.ssf.**
4. Provide two marked-up copies (Sections A-D) per crew of LOP-RR-08.
5. Provide marked up copy of LOP-RR-07 for HPU lockup.
6. Provide marked-up copy of LGP-2-1 as follows: Open circle Step E.1.8, circle/slash E.1.8.1, E.1.8.2, E.1.8.2.1, and E.1.8.3.
7. Flag following annunciators: P602-A101, P602-A504, P602-B101, P602-B504, P603-A501, 1PM03J-B409, and 1PM03J-B412.
8. Mark up Control Rod Move sheet to step 165 in reverse order.
9. Perform the pre-scenario checklist (TQ-LA-155-J001).

SCENARIO OUTLINE (NRC Evaluations Only)

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	R (ATC)	Insert rods to 61% rod line
2	N/A	N (BOP)	Startup the RR LFMG Sets per LOP-RR-08
3	N/A	R (BOP)	Downshift RR pumps per LOP-RR-08
4	MGC001 MGC004	MC (BOP)	1A GC Pump TRIP/Stby Fails to Auto-start
5	MRD106	C (ATC) TS (SRO)	Control Rod drifting out
6	MRD280	C (ATC)	Trip of 1A CRD Pump
7	K1P24WBL R0275	C (BOP) TS (SRO)	Spurious LPCS initiation
8	MRW010 MEE050 VMRW001R VMRW004R VMRW100R VMRW106R VTRW102R	M (ALL)	RB Rad Hi / RT leak / RT fails to Isolate, Main Turbine Fails to trip
9	VPAD13RR VPAD13VR	M (ALL)	RWCU leak, 2 areas above max safe, Emergency Depressurization, 2 SRVs fail to open

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor, (TS)Tech Spec, (MC)Manual Control

APPROXIMATE SCENARIO RUN TIME

80 minutes

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Event –1		
Description: Insert Rods to 61% Rod Line		
Initiation: Automatically by the Crew		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**

	ATC	Per LOP-RM-01:
		• VERIFY the following switch positions at panel 1H13-P603:
		  • CRD Drive Flow Trip Circuit Bypass Switch is in the BYPASS position
		  • CRD Drive Flow Trip Circuit Test Switch is in the NORMAL position
		• DEPRESS and HOLD rod INSERT push-button to continuously insert rod until push-button is released
		• CHECK Control Rod insert sequence begins:
		  • Rod INSERT light indication appears on the ROD SELECT Display or STATUS Display
		  • Rod position indication shows a continuous change indication appears on the ROD SELECT Display, STATUS Display or CORE MAP Display
		• OBSERVE changes in nuclear instrumentation indications
		• When rod INSERT push-button is released, VERIFY rod SETTLE indication appears and remains on for approximately 6 seconds
		• VERIFY rod settles at next even numbered position when push-button is released
		• VERIFY that new rod position is shown on the ROD SELECT Display, STATUS Display and CORE MAP Display

	BOP	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required
	US	• Directs the above actions

Event –1
Description: Insert Rods to 61% Rod Line

Simulator Operator Actions	
None	

Simulator Operator Role Play
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: Power below 61% Rod Line.

Event –2		
Description: Startup the RR LFMG Sets		
Initiation: Following the crew assuming the shift		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required
	BOP	Per LOP-RR-08: • VERIFY 1G33-F101 open to ensure greater than 25 gpm bottom head drain flow for correct bottom head temperature indication • At the 1DS001 Operator Station RRFC Process Overview Screen, for A AND B RR Loops, CHECK the “Accumulated Time for Delta Temp Low” • CLOSE MG Set Motor Feed Breakers 1A and 1B • VERIFY LFMG output voltage increases to about 600 volts in < 30 seconds
	US	• Directs the actions above

Event –2
Description: Startup the RR LFMG Sets

Simulator Operator Actions	
None	

Simulator Operator Role Play
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: 1A and 1B LFMG Sets running.

Event – 3		
Description: Downshift RR Pumps		
Initiation: Automatically per the Crew		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required
	BOP	Per LOP-RR-08: • VERIFY FCL is < 65.7% • TURN Motor Control Breaker 3 Control Switches for both A and B Reactor Recirc Pumps to the TRANSFER-MG position, and OBSERVE the following: • The 3A and 3B breakers open • A and B Pump Speed decreases to between 350 and 480 RPM as observed on speed indicator 1B33-R651A and1B33-R651B • The MG Set Generator output Breakers 2A and 2B close • A and B Pump speed stabilizes at approximately 445 rpm • A and B Pump differential pressure stabilizes at approximately 30 psid • A and B MG set amps stabilize at approximately 60 amps • Monitor for core instabilities using the guidance of LOS-RR-SR1 while continuing in this procedure • On the 1A RR LOOP M/A XFER STATION 1HK-RR022A, PRESS the Raise button until valve position indicates 100% • LOCK UP 1B33-F060A per LOP-RR-07 • On the 1B RR LOOP M/A XFER STATION 1HK-RR022B, PRESS the Raise button until valve position indicates 100% • LOCK UP 1B33-F060B per LOP-RR-07 • Direct EO to VERIFY relay 1B33A-K137A/B has dropped out (reset) at panel 1B33-P001A/B
	US	• Directs actions above • Updates Shift Manager on current plant status

Event – 3
Description: Downshift RR Pumps

Simulator Operator Actions	
None	

Simulator Operator Role Play
As Equipment Operator, when directed to verify relay's 1B33A-K137A/B have dropped out, **wait 3 minutes** and report, "Both relays are dropped out on panels 1B33-P001A and B." (LOP-RR-08 step E.10)
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Note: If required, have the Sim Booth Operator call the US as the Shift Manager and direct the US to continue with the plant shutdown.
Terminus: RR Pumps running in slow speed and RR FCV's full open.

Event – 4		
Description: 1A GC Pump Trip, 1B Fails to Auto-Start		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required
	BOP	• Identifies 1A GC Pump tripped • Starts 1B GC Pump, verifies Generator Runback alarm clears, and updates crew Per LOA-GC-101: • CHECK a Generator Stator Cooling Pump 1GC02P/3P is running • START Standby Generator Stator Cooling Pump 1GC03P • Continuously CHECK Generator Runback NOT initiated while continuing • Directs EO to verify all local parameters are in normal operating bands per LOA-GC-101
	US	• Directs BOP NSO to enter LOA-GC-101 • May establish manual scram criteria of no GC pumps running • Updates Shift Manager on current plant status

Event – 4
Description: 1A GC Pump Trip, 1B Fails to Auto-Start

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release '1A GC Pump Trip'**

Simulator Operator Role Play
As Equipment Operator, when directed to investigate the trip of the 1A GC Pump, **wait 3 minutes** and report, "The 1A GC Pump tripped on overcurrent."
As Equipment Operator, if directed to perform post start checks on the 1B GC Pump, **wait 2 minutes** and report, "Post start checks for the 1B GC Pump are SAT."
As Equipment Operator, when directed to verify local GC parameters per LOA-GC-101, **wait 5 minutes** and report, "All GC parameters are normal."
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Note: If the crew asks for each local GC parameter, use the following values: Stator Coolant Pump Discharge Pressure – 120 psig Generator Stator Inlet Coolant Flow – 630 gpm Generator Stator Outlet Temperature – 72.1°C Generator Stator Inlet Pressure – 70 psig
Terminus: 1B GC Pump running.

Event – 5		
Description: Rod 46-31 Drift Out		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Identifies Data Fault and Drift indications on rod 46-31 and updates crew Per LOA-RD-101: • CONTINUALLY CHECK no more than 1 control rod MOVING at the same time and no more than 3 control rods have SCRAMMED or DRIFTED Full In • CHECK Control Rods – No control rod currently moving • SELECT drifting control rod • VERIFY insert block indication OFF at ROD SELECT or STATUS Display • REMOVE insert block by PLACING the RWM Select switch to BYPASS • PLACE CRD DRIVE FLOW TRIP CIRCUIT BYPASS Switch to BYPASS • INSERT control rod to position 00 • CHECK control rod remains at position 04 or less • If control rod will NOT remain at position 04 or less, maintain the continuous/insert button depressed via a sufficient weight device • ENTER Mispositioned Control Rod(s) subsection while continuing here • VERIFY CRD cooling water parameters – NORMAL • From PPC, DEMAND current Control Rod Position • From PPC, DEMAND LPRM Diagnostic • RUN OD-20 • NOTIFY QNE • CHECK all other control rods – At their correct sequence positions • Refer to T.S. 3.1.3 and 3.1.6
	BOP	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required

	US	• Directs ATC NSO to enter LOA-RD-101
		• Reviews TS and enters **3.1.3:**
		  • **RA C.1 – Fully insert inoperable control rod within 3 hours**
		  • **RA C.2 – Disarm the associated CRD within 4 hours**
		• Updates Shift Manager on current plant status

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Event – 5
Description: Rod 46-31 Drift Out

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release 'Rod 46-31 Drifts Out'**

Simulator Operator Role Play
As Equipment Operator, if directed to investigate HCU 46-31, **wait 3 minutes** and report, "I see nothing abnormal at HCU 46-31."
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: Rod 46-31 maintained fully inserted.

Event – 6		
Description: 1A CRD Pump Trip		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Identifies 1A CRD Pump trip and immediately starts the 1B CRD Pump • Updates crew on 1A CRD Pump trip and 1B CRD Pump running Per LOA-RD-101: • CHECK one CRD pump running • START Standby CRD Pump • CHECK alarm 1H13-P603-A204 Clear • DISPATCH EO to determine cause of CRD pump trip • CHECK one CRD pump can be started
	BOP	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required
	US	• Directs ATC NSO to enter LOA-RD-101 • Updates Shift Manager on current plant status

Event - 6
Description: 1A CRD Pump Trip

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release '1A CRD Pump Trip'**

Simulator Operator Role Play
As Equipment Operator, when directed to investigate 1A CRD Pump Trip, **wait 4 minutes** and report, "The 1A CRD Pump tripped on Low Suction Pressure."
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: 1B CRD Pump running and CRD parameters restored.

Event - 7		
Description: Spurious Initiation of LPCS		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required
	BOP	• Identifies LPCS spuriously initiated and updates crew Per LOR-1H13-P601-C109: • VERIFY automatic actions occur • Determine cause for automatic initiation • IF a LOCA has NOT occurred, SECURE LPCS System per LOP-LP-03, Shutdown of Low Pressure Core Spray after Automatic Initiation Per LOP-LP-03: • VERIFY the LPCS Water Leg Pump 1E21-C002 is RUNNING • CLOSE injection valve 1E21-F005, LPCS Injection Valve • VERIFY 1E21-F011, LPCS Minimum Flow Bypass Valve opens • STOP the LPCS pump 1E21-C001
	US	• Directs BOP NSO to secure LPCS per LOP-LP-03 • May direct BOP NSO to place LPCS in PTL • Reviews TS and enters **3.5.1:** • **RA A.1 – Restore low pressure ECCS injection/spray subsystem to OPERABLE status within 7 Days** • Reviews TS 3.3.5.1

Event - 7
Description: Spurious Initiation of LPCS

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release 'Spurious LPCS Initiation**

Simulator Operator Role Play
As Equipment Operator, if directed to investigate LPCS, **wait 3 minutes** and report, "I see nothing abnormal at the pump or instrument racks."
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: LPCS secured and TS determinations made.

Event - 8		
Description: Unisolable RWCU Leak, Main Turbine Fails to Trip		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• May attempt to isolate RWCU • Inserts a manual scram as directed by the US **(CT-1)** • ARM and DEPRESS Scram buttons • PLACE Reactor Mode Switch to SHUTDOWN • INSERT IRMs and SRMs • CHECK all Control Rods in and power decreasing • INFORM Supervisor of Control Rod Status and Reactor Power • Maintains RPV level band of 20 to 50 inches using FW/ECCS as directed by US • Maintains RPV pressure band of 800 to 1000 psig using EHC as directed by US
	BOP	• Identifies RWCU Δ Flow Hi alarms and updates crew • Attempts to isolate RWCU and identifies that isolation attempt failed and updates crew • Reports RWCU area temperatures value/rate/trend to the US • Performs Scram Choregraphy • VERIFY Main Turbine/Generator Trip • Identifies Main Turbine failed to trip, manually trips the turbine, and informs the US • Continues to monitor RWCU area temperatures
	US	• Enters LGA-002 and directs actions • Directs BOP NSO to isolate RWCU • Directs ATC NSO to scram the reactor before any area temp reaches max safe **(CT-1)** **RWCU Area Temperature for CT-1 Evaluation _____** • Enters LGA-001 and directs actions • Directs ATC NSO to maintain RPV level band of 20 to 50 inches using FW/ECCS, and pressure band of 800 to 1000 psig using EHC • May direct BOP NSO to manually trip the turbine • Directs BOP NSO to continue monitoring LGA-002 data

Event – 8
Description: Unisolable RWCU Leak, Main Turbine Fails to Trip

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release 'Unisolable RT Leak'**

Simulator Operator Role Play
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: Continues to next Event.

Event – 9		
Description: 2 Areas Above Max Safe, Blowdown, 2 ADS SRVs Fail to Open		
Initiation: Automatically per scenario		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Restores RPV level to 20 to 50 inches using FW or Condensate following blowdown • Monitors control room panels and notifies the US of any unusual or unexpected conditions
	BOP	• Informs the US when two RWCU areas are above max safe values • Initiates ADS as directed by the US • Arm and Depress ADS pushbuttons • Identifies two ADS SRVs did not open • Manually opens two additional SRVs **(CT-2)** • Informs US ADS initiated, seven SRVs open, two manually • Starts Suppression Pool Cooling as directed by the US
	US	• Continues to monitor LGA-002 temperatures • Enters LGA-004 and directs actions • Directs BOP NSO to initiate ADS • Enters LGA-003 and directs actions • Directs BOP NSO to maximize Suppression Pool Cooling
		Max Safe Information Panel 1H13-P632: RWCU Holdup Room Ambient Air Temperature, Div 1 – 212°F RWCU Filter Demin (F/D) Valve Room Ambient Air Temperature, Div 1 – 212°F Panel 1H13-P642: RWCU Holdup Room Ambient Air Temperature, Div 2 – 212°F RWCU Filter Demin (F/D) Valve Room Ambient Air Temperature, Div 2 – 212°F

Event – 9
Description: 2 Areas Above Max Safe, Blowdown, 2 ADS SRVs Fail to Open

Simulator Operator Actions	
None	

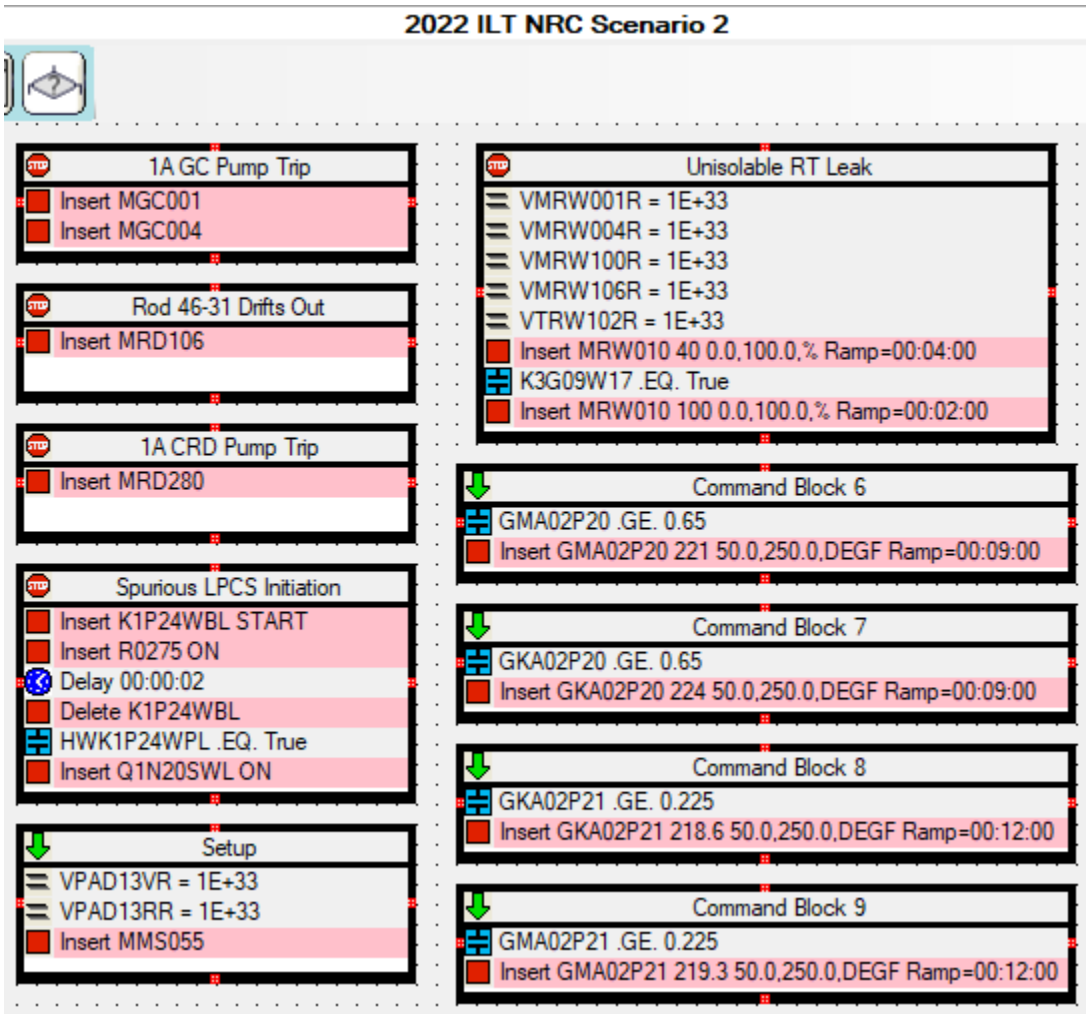
Simulator Operator Role Play
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: ADS initiated, seven SRVs open, and RPV level in band of 20 to 50 inches, or per Lead Evaluator.

REFERENCES

Procedure	Title
1. INPO 15-004	Operations Fundamentals
2. IER 17-5	Line of Sight to the Core
3. LGA-001	RPV Control
4. LGA-002	Secondary Containment Control
5. LGA-003	Primary Containment Control
6. LGA-004	RPV Blowdown
7. LOA-GC-101	Unit 1 Generator Stator Cooling Abnormal
8. LOA-RD-101	Control Rod Drive Abnormal
9. LOP-LP-03	Shutdown Of Low Pressure Core Spray System After An Automatic Initiation
10. LOP-RM-01	Rod Control Management System
11. LOP-RR-07	Operation Of The Reactor Recirculation Flow Control System
12. LOP-RR-08	Changing Reactor Recirc Pump Speed From Fast To Slow Speed
13. LOR-1H13-P601-B507	Leak Detection Reactor Water Cleanup System B Flow High (DivII)
14. LOR-1H13-P601-C109	LPCS System Actuated
15. LOR-1H13-P601-C208	LPCS Pump Breaker Closed
16. LOR-1H13-P601-C411	Leak Detection/Reactor Water Cleanup Flow High (Div I)
17. LGA-RH-103	Unit 1 A/B RHR Operations in the LGAs/LSMAGs
18. LGP-2-1	Normal Unit Shutdown
19. LGP-3-2	Reactor SCRAM
20. LPGP-PSTG-07	Plant Specific Technical Guidelines And Plant-Specific Severe Accident Guidelines Volume VII, LGA-Related Hard Cards
21. OP-LA-101-111-1002	LaSalle Operations Philosophy Handbook
22. OP-LA-103-102-1002	Strategies for Successful Transient Mitigation
23. OP-AA-106-101	Significant Event Reporting

SMARTSCENARIO FILE



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U1 SUPERVISOR TURNOVER

Shift: **Days**
Date: **Today**
Mode: **1**
OLR: **Green**
Work Week: **Div 1**

Unit 1 power level

- 54% Power
- 70 Mlbm/hr Core Flow
-
-

Unit 2 power level

- 100 % Power
-
-
-

U1 Thermal Limit Issues /Power Evolutions

- Normal Unit Shutdown in progress for Refueling Outage

U2 Thermal Limit Issues /Power Evolutions

- None

Existing LCOs, date of next surveillance

- None

Existing LCOs, date of next surveillance

- None

LOSs in progress or major maintenance

- LOP-RR-07 Attachment C in use for FCV position <60%

LOSs in progress or major maintenance

- None

⇒ **Equipment removed from service or currently unavailable**

- 1A TDRFP Secured
- 2nd Stage Reheat Secured

- None

Grid Status is Green

⇒ **Comments, evolutions, problems, etc.**

- Continue with LGP-2-1 inserting Control Rods to approx. 61% FCL
- Downshift RR Pumps per LOP-RR-08

⇒ **Comments, evolutions, problems, etc.**

- Non-Div Workweek. OLR is Green
- Performing LOS-RR-SR1 and LOP-RR-07 Attachment C for Unit 1

SRRS 3D.126/3D.111: Retain approved lessons for life of plant OR Life of Insurance Policy + 1 Yr for RP lesson plans. May be retained in department for two years, then forwarded to Records Management.

LaSalle County Station

LICENSED OPERATOR EVALUATED SCENARIO GUIDE

21-1 ILT NRC Exam

Scenario 3

Rev. 0

12/5/2022

DEVELOPED BY:	Exam Author	4/13/23 Date
VALIDATED BY:	SME/Tech Reviewer	4/13/23 Date
REVIEWED BY:	Training Department	4/14/23 Date
APPROVED BY:	Facility Representative	4/13/23 Date

SRRS 3D.126/3D.111: Retain approved lessons for life of plant OR Life of Insurance Policy + 1 Yr for RP lesson plans. May be retained in department for two years, then forwarded to Records Management.

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Form 3.3-1 Scenario Outline

Facility:	LaSalle	Scenario #:	NRC Scenario 3
Scenario Source:	New	Op. Test #:	2023301
Examiners:		Applicants/ Operators:	
Initial Conditions:	Unit 1 at 100% power. 1A WR pump OOS for maintenance, B APRM OOS for maintenance, 1E MPT Cooling Bank 1 OOS for scheduled maintenance		
Turnover:	Swap VR Supply/Exhaust Fans IAW LOP-VR-01.		
Critical Tasks:	With a failure of two bypass valves to open resulting in the majority of RPV heat going into primary containment, suppression pool cooling must be established to ensure suppression pool temperature does not exceed the limits of the HCTL curve in LGA-010. With an ATWS and the RPV discharging into primary containment, action must be taken to shut down and maintain shutdown the reactor before suppression pool temperature exceeds the limits of the HCTL curve in LGA-010. During an ATWS with Reactor Power above 3% or unknown, initiate SBLC within 16 minutes with an early failure.		

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	N (BOP)	Swap VR Supply/Exhaust Fans IAW LOP-VR-01
2	MNI099 MRP005	I/MC (ATC) TS (SRO)	D APRM fails upscale, 'B' RPS fails to scram
3	MRM011	I (BOP)	1A Post treat rad monitor fails downscale
4	MCW011	R (ATC)	1B CW pump trip, lower Rx power to maintain condenser vacuum
5	MEE211 R0106 G6C27G18	TS (SRO)	Div 1 Battery Charger Failure
6	MWS002	C (BOP)	1A WS pump trip
7	MEE049 MMS048 MMS051	M (ALL)	Main Gen trip, two Bypass valves fail closed
8	MRP017 MRP018 IAARIBP	M (ALL)	Electrical ATWS, ARI is not successful
9	MSL001 MSL002	C (ATC)	SBLC pump will not come up to pressure to inject, swap to alternate pump

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor, (TS)Tech Spec, (MC)Manual Control

Facility: LaSalle County Generating Station **Scenario #: Scenario 3**

PURPOSE

To evaluate the ILT candidate's ability to operate the plant in normal, abnormal, and emergency conditions.

SUMMARY OF EVENTS

1. Swap from 'B' to 'C' VR Supply/Exhaust Fans IAW LOP-VR-01.
2. 'D' APRM fails upscale and 'B' RPS fails to half scram. The US will enter TS 3.3.1.1 for the failed APRM's.
3. 1A Post treat rad monitor fails downscale resulting in a half-trip isolation on Off Gas.
4. 1B Circ Water Pump trips requiring reactor power to be lowered to maintain condenser vacuum.
5. The Division 1 Battery Charger fails requiring the crew to swap to the standby battery charger IAW LOA-DC-101. The US will enter TS 3.8.4 for the failed battery charger.
6. The 1A WS Pump trips requiring the crew to start the 1B WS Pump IAW LOR-1PM10J-A501.
7. The Main Generator will trip due to an electrical fault resulting in an automatic reactor scram. 2 bypass valves will fail to open resulting in a majority RPV heat going into primary containment initially.
8. The automatic reactor scram will not be successful due to 'A' RPS bus failing to deenergize and ARI failing to insert control rods.
9. The first SBLC pump started will have its relief valve failed resulting in the pump not reaching RPV pressure requiring the crew to swap SBLC pumps.

CRITICAL TASKS

1. With a failure of two bypass valves to open resulting in the majority of RPV heat going into primary containment, suppression pool cooling must be established to ensure suppression pool temperature does not exceed the limits of the HCTL curve in LGA-010.
2. With an ATWS and the RPV discharging into primary containment, action must be taken to shut down and maintain shutdown the reactor before suppression pool temperature exceeds the limits of the HCTL curve in LGA-010.
3. After failure of ARI and with the reactor power still above 3%, inject boron using SBLC after determining the FIRST SBLC pump has failed, within 16 minutes.

SRRS 3D.126/3D.111: Retain approved lessons for life of plant OR Life of Insurance Policy + 1 Yr for RP lesson plans. May be retained in department for two years, then forwarded to Records Management.

INITIAL SIMULATOR SETUP/ REQUIRED DOCUMENTATION

1. Recall IC 241, 100% Power. Password 1241.
2. Place simulator in RUN.
3. Load and run the SmartScenario file **Scenario 3.ssf.**
4. Verify two marked-up copies (per crew) of LOP-VR-01 are available. Circle/slash Sections A-D and N/A Section E.1.
5. Place OOS Info card on 'A' WR Pump and 'B' APRM Bypass Joystick.
6. Perform the pre-scenario checklist (TQ-LA-155-J001).

SCENARIO OUTLINE (NRC Evaluations Only)

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	N (BOP)	Swap VR Supply/Exhaust Fans IAW LOP-VR-01
2	MNI099 MRP005	I/MC (ATC) TS (SRO)	D APRM fails upscale, 'B' RPS fails to scram
3	MRM011	I (BOP)	1A Post treat rad monitor fails downscale
4	MCW011	R (ATC)	1B CW pump trip, lower Rx power to maintain condenser vacuum
5	MEE211 R0106 G6C27G18	TS (SRO)	Div 1 Battery Charger Failure
6	MWS002	C (BOP)	1A WS pump trip
7	MEE049 MMS048 MMS051	M (ALL)	Main Gen trip, two Bypass valves fail closed
8	MRP017 MRP018 IAARIBP	M (ALL)	Electrical ATWS, ARI is not successful
9	MSL001 MSL002	C (ATC)	SBLC pump will not come up to pressure to inject, swap to alternate pump

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor, (TS)Tech Spec, (MC)Manual Control

APPROXIMATE SCENARIO RUN TIME

80 minutes

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Event - 1		
Description: Swap 'B' and 'C' VR Supply/Exhaust Fans		
Initiation: Following the crew assuming the shift		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required
	BOP	Per LOP-VR-01 Section E.3: • If required to swap both Supply and Exhaust fans with two Supply fans and two Exhaust fans currently running, GO to step E.3.6. • If desired, Maintain a CRD room Fan 1VR03CA running by quickly placing the C/S in START • Direct EO at 1PL27J, VERIFY VR discharge check dampers of fans to be started are CLOSED • STOP one running VR Supply Fan 1VR01CB • IMMEDIATELY STOP one running VR Exhaust Fan 1VR02CB: • Direct EO at 1PL27J, CHECK corresponding fan discharge check dampers 1VR01YB and 1VR02YB CLOSED • START one standby VR Exhaust Fan 1VR02CC • IMMEDIATELY START one standby VR Supply Fan 1VR01CC • Direct EO at 1PL27J, CHECK corresponding fan discharge check dampers 1VR01YC and 1VR02YC OPEN • If a CRD room Fan 1VR03CA C/S was placed in START quickly place the C/S in AUTO
	US	• Directs the actions above

Event - 1
Description: Swap ‘B’ and ‘C’ VR Supply/Exhaust Fans

Simulator Operator Actions	
None	

Simulator Operator Role Play
As Equipment Operator, when directed to verify VR discharge check dampers 1VR01YC and 1VR02YC closed (Step E.3.6.2), **wait 1 minute** and report, “1VR01YC and 1VR02YC are closed.”
As Equipment Operator, when directed to verify VR discharge check dampers 1VR01YB and 1VR02YB closed (Step E.3.6.5), report, “1VR01YB and 1VR02YB are closed.”
As Equipment Operator, when directed to verify VR discharge check dampers 1VR01YC and 1VR02YC open (Step E.3.6.8), report, “1VR01YC and 1VR02YC are open.”
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR’s
Terminus: ‘C’ VR Supply and Exhaust Fans running.

Event - 2		
Description: 'D' APRM Fails Upscale		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Identifies alarm 1H13-P603-A505, Channel B APRM Hi-Hi/Inop and updates crew • Identifies 'D' APRM upscale, B RPS did not scram, and updates crew Per LOR-1H13-P603-A505: • VERIFY above automatic action occurs (RPS Channel B trips) • Inserts a half scram on B RPS by arming and depressing Scram button B1 or B2 • CHECK if CHAN A APRM HI-HI/INOP alarm is up • OBSERVE APRM Flux indications for high levels, and DETERMINE cause of alarm • OBSERVE APRM recorders and LPRM meters for flux oscillations greater than two (2) times normal peak-to-peak • If Channel A APRM Hi-Hi/INOP Alarm is NOT present and alarm was caused by an APRM Hi Hi or INOP: • DETERMINE if one APRM has failed upscale or is inoperable • BYPASS inoperable/upscale APRM if no other APRM's are bypassed in Channel B • Informs US that 'D' APRM cannot be bypassed due to 'B' APRM already in bypass
	BOP	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required Per LOA-NR-101: • STOP all control rod motion/power changes • CHECK reactor in RUN • CHECK at least - ONE Indication available • CHECK recorders – WORKING

		• CHECK APRM indications on 1H13-P603 and 1H13-P608 – NORMAL • If APRM inop, BYPASS the APRM • Inform US to refer to TS 3.3.1.1, 3.3.2.1, 3.3.1.3, and TRM 3.3.c
	US	• Directs the above actions • May direct BOP NSO to enter LOA-NR-101 • Updates Shift Manager on current plant status • Reviews TS and enters **3.3.1.1**: • **RA A.1 – Place channel in trip within 12 hours** **or** • **RA A.2 – Place associated trip system in trip within 12 hours**

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Event - 2
Description: 'D' APRM Fails Upscale

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release 'D APRM Fails Upscale'**

Simulator Operator Role Play
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
With B APRM in bypass, the half scram cannot be reset.
Terminus: Half Scram inserted on B RPS and TS determinations made.

Event - 3		
Description: 1A Post Treat Rad Monitor Fails Downscale		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required
	BOP	• Identifies alarm 1N62-P600-B208, Off Gas Post-Treatment Radiation Trouble, and updates crew Per LOR-1N62-P600-B208: • If R1200 is alarming, Then CHECK OG Post Treat PRM's, 1D18-K601A/B, for INOP/DWNSCL alarms and VERIFY proper operation per LOP-PR-03 • NOTIFY Rad Protection Department to check 0PL99J (OG BLDG 690') for proper operation and to RESET any alarms • Direct EO to VERIFY 1AP66E-C5 (134Y-1 C5) and 1AP66E-D1 breaker 6 (134Y-1 D1 Breaker 6) are CLOSED • Inform US to REFER to ODCM Section 12.2.2.A • PLACE the 1A Off Gas Post Treatment Radiation Monitor mode switch in standby if required by ODCM • If 1N62-F057 has closed OR a single channel (A or B) of isolation logic fails, causing an invalid half isolation, GO TO LOA-OG-101 Section B.8 Per LOA-OG-101 Section B.8: • CHECK 1N62-F057, Off Gas Vent Stack Dsch Valve, isolated due to a valid High-High-High Rad condition OR should have isolated • If 1N62-F057 isolated for reasons other than a valid High-HighHigh Rad condition in the Off Gas system OR a single channel (A or B) of isolation logic fails, causing an invalid half isolation, PERFORM the following • PLACE C/S for 1N62-F057, Off Gas Vent Stack Dsch Valve to OPEN • VERIFY OPEN 1N62-F057, Off Gas Vent Stack Dsch Valve

	US	• Directs actions above • Directs BOP NSO to enter LOA-OG-101 • Reviews the ODCM and enters **12.2.2:** • **RA B.1 – Enter the Condition referenced in Table R12.2.2-1 for the instrument channel immediately** • **RA C.1 – Place instrument channel in trip within 1 hour** • Updates Shift Manager on current plant status

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Event - 3
Description: 1A Post Treat Rad Monitor Fails Downscale

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release '1A Post Treat Fails'**

Simulator Operator Role Play
As RP, when directed to verify OG breakers and fuse status, **wait 4 minutes** and report, "1AP66E-C5 and 1AP66E-D1 breakers are closed, and fuse F1 for 0PL99J has been verified not blown."
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: 1A Post Treat Rad Monitor in Standby or per Lead Evaluator.

Event - 4		
Description: 1B CWP Trip		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• May identify 1B CWP tripped and updates crew Per LOA-CW-101: • Reduce Reactor Power as necessary to maintain Main Condenser Backpressure within limits
	BOP	• May identify 1B CWP tripped and updates crew • Assigns Critical Parameter of condenser backpressure and updates crew Per LOR-1PM03J-B406: • Directs EO to investigate trip of 1B CWP Per LOA-CW-101: • Refer to Attachment A for approximate generator load vs. circ water temperature • Consider stopping unnecessary testing that adds heat to the suppression pool • Monitor Hotwell, CP Inlet, WS, WR, and WT temperatures
	US	• Directs BOP NSO to enter LOA-CW-101 • Directs ATC NSO to lower power not to exceed 70 Mlbm/hr on recirc or 75% power • Ensures BOP NSO self-assigned, or assigns as required, Critical Parameter of condenser backpressure • Establishes Manual Scram criteria of loss of all CWPs and condenser backpressure above 6.5” with power above 75% • Updates Shift Manager on current plant status

Event - 4
Description: 1B CWP Trip

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release '1B CWP Trip'**

Simulator Operator Role Play
As Equipment Operator, when directed to investigate trip of 1B CWP, **wait 5 minutes** and report, "The 1B CWP tripped on overcurrent."
If required, call US at 2300 as the Shift Manager and provide the following direction, "Reduce power to approximately 90% to satisfy Attachment A requirements for Generator load vs. Circ Water temperature.
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: Reactor power lowered and condenser backpressure stabilized.

Event - 5		
Description: Loss of Division 1 Battery Charger		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required

	BOP	• Identifies loss of the Div 1 125V battery charger and updates US
		
		Per LOR-1PM01J-A309:
		• DETERMINE cause of alarm
		  • R0106 - Div 1 125V Charger Feed Breaker Trip
		• VERIFY proper operation of 125V Battery Charger per LOP-DC-01
		• REFER to procedure LOA-DC-101
		
		Per LOA-DC-101:
		• Inform US to DECLARE affected Battery Charger inoperable and REFER TO applicable Tech Specs while continuing
		• Direct EO to LOCALLY CHECK if affected battery charger has - APPARENT VISUAL DAMAGE
		• DO NOT attempt to energize a damaged battery charger
		• TAKE affected battery charger Out Of Service as time permits while continuing
		• CHECK if 125 VDC or 250 VDC charging system(s) – AFFECTED
		• CHECK if Div 1 125 VDC or Div 2 125 VDC – AFFECTED
		• CHECK if alternate Battery Charger – AVAILABLE
		  • 1AB [1DC23E]
		• Direct EO to perform the following:
		  • At battery charger to be energized/restored, OPEN following breakers – IN ORDER LISTED: AC Input Breaker, DC Output Breaker
		  • At MCC 135X-3, CLOSE AC Feed Breaker for DC charging system to be energized: Bkr C4

		• At DC Bus 1A, CLOSE DC Feed Breaker from DC charging system to be energized: Bkr 2D • At battery charger 1AB, CLOSE AC Input Breaker, DEPRESS Float pushbutton, VERIFY FLOAT light energized, and CLOSE DC Output Breaker • CHECK Battery Charger DC float voltage - WITHIN ACCEPTABLE RANGE • CHECK if Div 1 Battery Chargers 1AA and 1AB - OPERATING IN PARALLEL • CHECK if Div 2 Battery Chargers 1BA and 1BB - OPERATING IN PARALLEL • CHECK associated Battery Charger Trouble alarm – CLEAR • CHECK if associated DC Distr Pnl(s)/Bus/MCC(s) Unit Tie breaker(s) – CLOSED • REVIEW Tech Spec Actions and STOP applicable timeclock
	US	• Directs BOP NSO to enter LOA-DC-101 • Reviews TS and enters **3.8.4:** • **RA A.1 – Restore battery terminal voltage to greater than or equal to the minimum established float voltage within 2 hours** • **RA A.2 – Verify battery float current < 2 amps once per 12 hours** • **RA A.3 – Restore required battery charger to OPERABLE status within 7 days** • Updates Shift Manager on current plant status

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Event - 5
Description: Loss of Division 1 Battery Charger

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release 'Loss Div 1 Battery Charger'**
When directed by the Role Play below	**Release 'Restore Battery Charger'**

Simulator Operator Role Play
As Equipment Operator, when directed to investigate the Div 1 battery charger, **wait 3 minutes** and report, "The Div 1 battery charger 1AA has smoke coming from the top of the cabinet. There is no fire, and the smoke is clearing."
As Equipment Operator, when directed to perform LOA-DC-101 Section B.1 steps 14 through 18, acknowledge report. **Wait 8 minutes**, perform Sim Op Action above to restore battery charger, call the MCR and report, "Battery Charger 1AB is energized and float voltage is 130.7 VDC."
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: Backup battery charger online or per Lead Evaluator.

Event - 6		
Description: 1A Service Water Pump Trip		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required
	BOP	• Identifies trip of the 1A WS pump and updates crew Per LOR-1PM10J-A501: • START a standby Service Water Pump • DISPATCH operator to INSPECT 1AP03E-6 Service Water Pump 1A breaker for abnormalities • DISPATCH operator to Lake Screen House to INSPECT Service Water Pump 1A for abnormalities • REFER to LOA-WS-101
	US	• Directs actions above • Directs BOP NSO to enter LOA-WS-101 • Updates Shift Manager on current plant status

Event - 6
Description: 1A Service Water Pump Trip

Simulator Operator Actions	
When directed by Lead Evaluator	**Release '1A WS Pump Trip'**

Simulator Operator Role Play
As Equipment Operator, when directed to investigate trip of the 1A Service Water Pump, **wait 3 minutes** and report, "The 1A Service Water Pump tripped on overcurrent."
As Equipment Operator, when sent to the Lake Screen House, **wait 4 minutes** and report, "I see nothing abnormal with the 1A Service Water Pump."
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: 1B WS Pump running.

Event – 7/8		
Description: Main Generator Trip, Failure of 2 BPVs Closed, ATWS, ARI Fails		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**

	ATC	• Identifies automatic reactor scram, 'A' RPS failed to scram, ATWS, and updates crew
		• Performs ATWS scram choreography
		  • Arm and depress Scram buttons
		  • Place Reactor Mode Switch to SHUTDOWN
		• Insert IRMs and SRMs
		• Check all Control Rods in and power decreasing
		• Initiates ARI
		• Identifies power is greater than 3% and initiates SBLC **(CT-2)**
		• Informs the US of ATWS, power level, and that ARI and SBLC have been initiated, and ARI failed
		• Rapidly reduces RPV water level to less than -60 inches on WR using FW as directed by US
		• Maintains RPV water level between -60 to -100 inches on WR using FW and ECCS
		• Maintains RPV pressure 800-1000 psig using SRVs and dearating steam as directed by US
		• Attempts to manually insert Control Rods per LGA-NB-101 Method 3 **(CT-2)**
		
		Suppression Pool Temperature for CT-1 Evaluation: _____

	BOP	• Inhibits ADS and controls ECCS
		  • PLACE 1E22-C001, HPCS Pump, in PTL
		  • PLACE Div 2 Inj Override Switch to ATWS
		  • PLACE Div 1 Inj Override Switch to ATWS
		  • PLACE Div 1 and Div 2 ADS Inhibit switches in INHIBIT
		• Directs Unit 2 BOP NSO to perform LGA-MS-101, LGA-NB-101, and LGA-HP-101 **(CT-2)**
		• Runs Recirc to minimum as directed by US

		• Trips RR Pumps as directed by US
		  • Places 1A/B, 2A/B, and 3A/B RR Pump breaker C/Ss to PTL
		• Starts Suppression Chamber Sprays as directed by US
		
		Per LGA-RH-103 Hardcard
		• VERIFY 1A/1B RHR Pump is running
		• OPEN 1E12-F027A/B
		
		• Maximizes Suppression Pool Cooling as directed by US **(CT-1)**
		
		Per LGA-RH-103 Hardcard:
		• OPEN 1A/1B RHR Hx Service Water Outlet Valve:
		  o 1E12-F068A
		  o 1E12-F068B
		• At approximately 9 to 10 seconds after taking the 1E12-F068A/B switch to OPEN, START first RHR Service Water Pump
		• 1A RHR:
		  o Service Water Pump A
		  o Service Water Pump B
		• 1B RHR:
		  o Service Water Pump C
		  o Service Water Pump D
		• When indicated flow reaches 3000 gpm, START second RHR Service Water Pump
		• START 1A/1B RHR Pump
		• ESTABLISH RHR flow of at least 7200 gpm
		• THROTTLE 1E12-F024A/B OPEN
		Suppression Pool Temperature for CT-1 Evaluation: _____
		• CLOSE 1E12-F048A/B by placing A/B HTX Bypass Throttle/Seal in switch to SEAL IN and CLOSE 1E12-F048A/B

	US	• Enters LGA-001 and directs actions • Directs BOP NSO to inhibit ADS and control ECCS • Directs ATC NSO to rapidly reduce RPV water level to below -60 inches on WR • Directs BOP NSO to call out for LGA-MS-101, LGA-NB-101, and LGA-HP-101 • Directs ATC NSO to maintain RPV water level between -60 to -100 inches on WR using FW and ECCS • Enters LGA-010 and directs actions • Directs BOP NSO to run Recirc back to minimum • Directs BOP NSO to trip the RR Pumps • Directs ATC NSO to maintain RPV pressure 800-100 psig using SRVs and dearating steam • Enters LGA-003 and directs actions • Directs BOP NSO to start Suppression Chamber Sprays • Directs BOP NSO to establish two loops of Suppression Pool Cooling

Event – 7/8
Description: Main Generator Trip, Failure of 2 BPVs Closed, ATWS, ARI Fails

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release 'Main Generator Trip'**
Built into SmartScenario	**None –** Electrical ATWS, BPVs fail closed, ARI fails to initiate
When directed by the Crew	**Release '2 NSO Crew' & 'LGA-HP-101'**
When given permission to open the breaker for 1E22-F004	**Release 2nd 'LGA-HP-101'**
When directed by the Crew	**Release 'Re-energize 'A' RPS'**

Simulator Operator Role Play
As U2, when directed to perform LGA-MS-101, LGA-NB-101, and LGA-HP-101, acknowledge request and perform third Sim Op Action above. Perform Role Plays as directed by SmartScenario Pop-up messages.
When prompted by SmartScenario, call back to request to open the breaker for the 1E22-F004. Perform fourth Sim Op Action above when directed. Perform Role Plays as directed by SmartScenario Pop-up messages.
When directed to re-energize 'A' RPS, acknowledge request and perform fifth Sim Op Action above. Perform Role Plays as directed by SmartScenario Pop-up messages.
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: Continues to next Event.

Event - 9		
Description: First SBLC Pump Fails		
Initiation: Automatically per scenario		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Identifies running SBLC Pump discharge pressure is not equal to RPV pressure • Places running SBLC Pump keylock switch to STOP • Places standby SBLC Pump keylock switch to SYS B(A) **(CT-3)** • Verifies running SBLC Pump discharge pressure is equal to RPV pressure • Informs US of actions taken • Continues to maintain RPV level band as directed by US, and pressure band of 800-1000 psig using SRVs and dearating steam • Continues to insert control rods per LGA-NB-101 Method 3 • Resets the scram after LGA-NB-101 actions are complete
	BOP	• Continues with actions from previous Event • May assist ATC NSO by operating SRVs to maintain RPV pressure
	US	• Continues directing actions of LGA-003 and LGA-010

Event – 9
Description: First SBLC Pump Fails

Simulator Operator Actions	
Built into SmartScenario	**SBLC Relief Valve Fails**

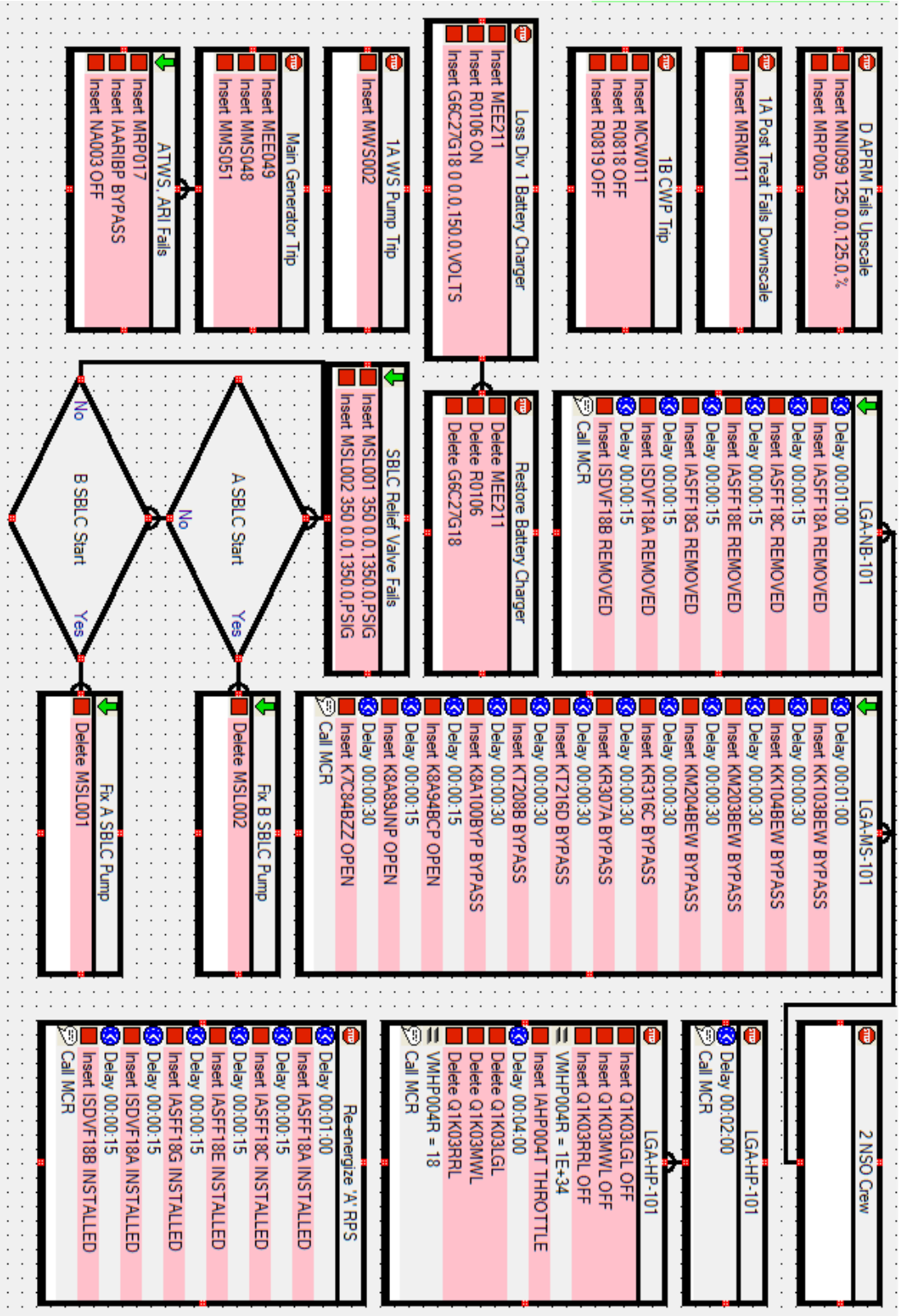
Simulator Operator Role Play
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: RPV Pressure and Level in band as directed by US, or per Lead Evaluator.

REFERENCES

Procedure	Title
1. INPO 15-004	Operations Fundamentals
2. IER 17-5	Line of Sight to the Core
3. LGA-001	RPV Control
4. LGA-003	Primary Containment Control
5. LGA-010	Failure To SCRAM
6. LGA-HP-101	Miscellaneous Emergency HPCS Operation On Unit 1
7. LGA-MS-101	Unit 1 using Main Condenser as Heat Sink in ATWS and LGAs
8. LGA-NB-101	Alternate Rod Insertion
9. LGA-RH-103	Unit 1 A/B RHR Operations in the LGAs/LSMAGs
10. LOA-CW-101	Unit 1 Circulating Water System Abnormal
11. LOA-DC-101	Unit 1 DC Power System Failure
12. LOA-NR-101	Neutron Monitoring Trouble
13. LOA-OG-101	Unit 1 Off Gas System Abnormal
14. LOP-VR-01	Reactor Building Ventilation System Startup And Operation
15. LOR-1H13-P603-A505	Channel B APRM Hi-Hi/Inop
16. LOR-1N62-P600-A501	Off Gas System Outlet and Drain Isolated
17. LOR-1N62-P600-B208	Off Gas Post-Treatment Radiation Trouble
18. LOR-1PM01J-A309	125VDC Battery 1A Charger Trouble
19. LOR-1PM03J-B406	Circulating Water Pump 1CW01PA/B/C Auto Trip
20. LOR-1PM03J-B511	Condenser Vacuum Low
21. LOR-1PM10J-A501	Service Water Pump Automatic Trip
22. LGP-3-2	Reactor SCRAM
23. CY-LA-170-301	Offsite Dose Calculation Manual
24. LPGP-PSTG-07	Plant Specific Technical Guidelines And Plant-Specific Severe Accident Guidelines Volume VII, LGA-Related Hard Cards
25. OP-LA-101-111-1002	LaSalle Operations Philosophy Handbook
26. OP-LA-103-102-1002	Strategies for Successful Transient Mitigation
27. OP-AA-106-101	Significant Event Reporting

SMARTSCENARIO FILE



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U1 SUPERVISOR TURNOVER

Shift: **Days**
Date: **Today**
Mode: **1**
OLR: **Green**
Work Week: **Div 1**

Unit 1 power level

- 100 % Power
-
-
-

Unit 2 power level

- 100 % Power
-
-
-

U1 Thermal Limit Issues /Power Evolutions

- None

U2 Thermal Limit Issues /Power Evolutions

- None

Existing LCOs, date of next surveillance

- None

Existing LCOs, date of next surveillance

- None

LOSs in progress or major maintenance

- None

LOSs in progress or major maintenance

- None

⇒ **Equipment removed from service or currently unavailable**

- 1A WR Pump OOS for motor replacement
- 1W MPT Cooling Bank 3 OOS for scheduled maintenance
- 'B' APRM is bypassed due to power supply replacement

- None

Grid Status is Green

⇒ **Comments, evolutions, problems, etc.**

- Swap from 'B' VR Supply/Exhaust Fans to 'C' VR Supply/Exhaust Fans IAW LOP-VR-01, Section E.3

⇒ **Comments, evolutions, problems, etc.**

- Non-Div Workweek. OLR is Green
- Hot Weather Alert issued through 2300 tonight

LaSalle County Station

LICENSED OPERATOR EVALUATED SCENARIO GUIDE

21-1 ILT NRC Exam

Scenario 4

Rev. 0

12/5/2022

DEVELOPED BY:	Exam Author	4/13/23 Date
VALIDATED BY:	SME/Tech Reviewer	4/13/23 Date
REVIEWED BY:	Training Department	4/14/23 Date
APPROVED BY:	Facility Representative	4/14/23 Date

SRRS 3D.126/3D.111: Retain approved lessons for life of plant OR Life of Insurance Policy + 1 Yr for RP lesson plans. May be retained in department for two years, then forwarded to Records Management.

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Form 3.3-1 Scenario Outline

Facility:	LaSalle	Scenario #:	NRC Scenario 4 (Spare)
Scenario Source:		Op. Test #:	2023301
Examiners:		Applicants/ Operators:	
Initial Conditions:	Unit 1 at 100% power, 0B DFP OOS for strainer maintenance (LCO 3.7.j Condition A.1)		
Turnover:	Perform LPCS full flow test IAW LOS-LP-Q1 starting at Step A.5.2.		
Critical Tasks:	With a closure of the MSIV's and Drains resulting in all of RPV heat going into primary containment, suppression pool cooling must be established to ensure suppression pool temperature does not exceed the limits of the HCTL curve in LGA-003. Initiate Chamber sprays prior to Drywell sprays IAW LGA-003 to minimize the impact of chugging in the downcomers.		

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	N (BOP)	Perform LPCS full flow test IAW LOS-LP-Q1, Steps A.5.2- A.5.7
2	R0641 U1VR37Y	C (BOP) TS (SRO)	Failure of the LPCS/RCIC Corner Room Cooling fan. LOR-1H13-P601-C407
3	Q3J083WB	I (ATC)	Partial ½ scram and recovery per LOA-RP-101 (1 light, replace fuse and reset)
4	K4L03WPY R1339 K4L06WPY	C / MC (ATC)	TDRFP Seal Inj. Pump trips, Standby fails to Auto-Start
5	MNB035	R (ATC) TS (SRO)	'R' SRV Failed Open (will not close)
6	MCW006 MCW008	C (BOP) TS (SRO)	1B or 1D RHR WS pump fails to start for suppression pool cooling (S/D A/C pump, restart in single pump ops per LOP-RH-05 with discharge throttled)
7	K1L42E12 K1M35E12 K1P40E12	M (ALL)	Spurious Grp 1 Isolation
8	MNB165	M (ALL)	'R' SRV Tailpipe Break
9	VMRH16AR VMRH16BR	C (BOP)	DW spray valve on A or B RHR loop will not open

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor, (TS)Tech Spec, (MC)Manual Control

Facility: LaSalle County Generating Station **Scenario #: Scenario 4**

PURPOSE

To evaluate the ILT candidate's ability to operate the plant in normal, abnormal, and emergency conditions.

SUMMARY OF EVENTS

1. Perform LPCS full flow test IAW LOS-LP-Q1.
2. LPCS/RCIC Corner Room fan fails requiring LPCS to be secured. RCIC and LPCS will be declared inoperable and TS 3.5.1 and 3.5.3 will be entered.
3. The 1A Group 3 Scram solenoid fuse will blow resulting in a partial half scram requiring crew to replace blown fuse and reset partial half scram.
4. The 1A TDRFP Seal Injection Pump will trip with a failure of the 1B TDRFP Seal Injection Pump to auto-start requiring the crew to manually start the 1B TDRFP Seal Injection Pump.
5. 'R' SRV will fail open and will not close. The US will enter TRM 3.3.d for loss of SRV indication.
6. The second RHR WS pump (1B or 1D) will trip upon starting. Crew may realign system for single pump operations IAW LOP-RH-05. The US will enter TS 3.7.1 for inoperable RHRSW.
7. Multiple MSIVs will fast close resulting in a Group 1 isolation and reactor scram.
8. 'R' SRV Tailpipe will break in the Suppression Chamber airspace resulting in a containment bypass path condition requiring Suppression Chamber and Drywell Sprays to be initiated.
9. The first DW Spray valve (1E12-F016A or 1E12-F016B) will fail to open requiring swapping DW sprays to the other RHR system.

CRITICAL TASKS

1. With a closure of the MSIV's and Drains resulting in all of RPV heat going into primary containment, suppression pool cooling must be established to ensure suppression pool temperature does not exceed the limits of the HCTL curve in LGA-003.
2. Initiate Chamber sprays prior to Drywell sprays IAW LGA-003 to minimize the impact of chugging in the downcomers.

SRRS 3D.126/3D.111: Retain approved lessons for life of plant OR Life of Insurance Policy + 1 Yr for RP lesson plans. May be retained in department for two years, then forwarded to Records Management.

INITIAL SIMULATOR SETUP/ REQUIRED DOCUMENTATION

1. Recall IC 242, 100% Power. Password 1242.
2. Place simulator in RUN.
3. Load and run the SmartScenario file **Scenario 4.ssf.**
4. Update the Tech Spec Timeclock Sheet as follows:

TS/TRM/ODCM	System/ Component	Required Action	REQUIRED ACTION Description	Completion Time	Expiration Date/Time
3.7.j	FP / 0B DFP	A.1	Restore 0B DFP to Operable	7 Days	6 Days

5. Verify two copies (per crew) of LOS-LP-Q1 are available and marked up through Step A.4.
6. Flag the following annunciators on 1H13-P601: C208, C209, C508, and F103. Send LPCS Pump PPC Screen to Overhead C.
7. Place OOS card on 0BDFP.
8. Have blank copy of LOP-RH-16 available.
9. Perform the pre-scenario checklist (TQ-LA-155-J001).

SCENARIO OUTLINE (NRC Evaluations Only)

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	N (BOP)	Perform LPCS full flow test IAW LOS-LP-Q1, Steps A.5.2-A.5.7
2	R0641 U1VR37Y	C (BOP) TS (SRO)	Failure of the LPCS/RCIC Corner Room Cooling fan. LOR-1H13-P601-C407
3	Q3J083WB	I (ATC)	Partial ½ scram and recovery per LOA-RP-101 (1 light, replace fuse and reset)
4	K4L03WPY R1339 K4L06WPY	C / MC (ATC)	TDRFP Seal Inj. Pump trips, Standby fails to Auto-Start
5	MNB035	R (ATC) TS (SRO)	'R' SRV Failed Open (will not close)
6	MCW006 MCW008	C (BOP) TS (SRO)	1B or 1D RHR WS pump fails to start for suppression pool cooling (S/D A/C pump, restart in single pump ops per LOP-RH-05 with discharge throttled)
7	K1L42E12 K1M35E12 K1P40E12	M (ALL)	Spurious Grp 1 Isolation
8	MNB165	M (ALL)	'R' SRV Tailpipe Break
9	VMRH16AR VMRH16BR	C (BOP)	DW spray valve on A or B RHR loop will not open

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor, (TS)Tech Spec, (MC)Manual Control

APPROXIMATE SCENARIO RUN TIME

80 minutes

SRRS 3D.126/3D.111: Retain approved lessons for life of plant OR Life of Insurance Policy + 1 Yr for RP lesson plans. May be retained in department for two years, then forwarded to Records Management.

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Event - 1		
Description: LPCS Full Flow Test		
Initiation: Following the crew assuming the shift		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required
	BOP	Per LOS-LP-Q1 Attachment 1A: • MONITOR LPCS Pump and motor bearing temperatures using the Plant Process Computer • W452 LPCS Pmp Mtr Up Gde Brg • L450 LPCS Pmp Mtr Stat Wdg • W453 LPCS Pmp Mtr Lo Gde Brg • W451 LPCS Pmp Mtr Up Thst Brg • START LPCS Pmp 1E21-C001 • VERIFY the following alarms on Panel 1H13-P601: • LPCS PMP BKR CLOSED (C208) • LPCS PMP DSCH PRESS HI (C209) • DIV 1 ADS LPCS/A RHR DSCH PRESS PERMISSIVE (F103) • THROTTLE OPEN 1E21-F012 LPCS, Test to SP Vlv, to establish the following: • Flow rate of 6350 gpm • Discharge pressure greater than or equal to 290 psig • VERIFY the following alarms on Panel 1H13-P601: • LPCS PMP DSCH PRESS HI (C209) CLEARS • LPCS PMP INJ FLOW HI (C508) ANNUNCIATES • VERIFY CLOSED 1E21-F011, LPCS Min Flow Vlv • At Control Room Panel 1/2PM01J, VERIFY 0 Diesel Gen Cooling Wtr Pmp 0DG01P, is RUNNING • Dispatch EO to perform Step A.5.8
	US	• Directs the actions above

Event - 1
Description: LPCS Full Flow Test

Simulator Operator Actions	
None	

Simulator Operator Role Play
As Equipment Operator, if required, inform the MCR that all personnel are clear of the corner room and are standing by for pump start.
As Equipment Operator, when directed to perform post start checks, **wait 2 minutes** and report, “Post start checks are completed SAT.”
As Equipment Operator, acknowledge direction to perform LOS-LP-Q1 Step A.5.8 on page 17.
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR’s
Terminus: LPCS running at 6350 gpm and ‘0’ DGCWP verified running, or per Lead Evaluator.

Event - 2		
Description: LPCS/RCIC Corner Room Cooling Fan Failure		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required
	BOP	• Identifies alarm 1H13-P601-C407, LPCS/RCIC Pump Cubicle Cooling Fan Auto Trip, and updates crew Per LOR-1H13-P601-C407: • VERIFY automatic action occurs • DISPATCH operator to LPCS/RCIC Pump Cubicle Cooler Fan 1VY04C to check for cause of overload • MONITOR LPCS/RCIC Pump Cubicle Temperature on 1TI-VY022 at panel 1H13-P601 • CHECK room temperature is within the limits specified in LOS-AA-S101 (124°F Max) • CHECK breaker for LPCS/RCIC Pump Cubicle Cooler Fan 1VY04C on MCC 135Y-2 for abnormalities • REFER to Tech Spec 3.5.1, 3.5.2, 3.5.3 and TRM 3.7.g • CLOSE 1E21-F012 LPCS, Test to SP Vlv • VERIFY OPEN 1E21-F011, LPCS Min Flow Vlv • STOPS LPCS Pump, 1E21-C001, and places C/S in PTL

	US	• Directs the above actions
		• Updates Shift Manager on current plant status
		• Reviews and enters the following Tech Specs:
		  • **3.5.1 RA A.1 – Restore low pressure ECCS injection/spray subsystem to OPERABLE status within 7 Days**
		  • **3.5.3 RA A.1 – Verify by administrative means High Pressure Core Spray System is operable immediately**
		  • **3.5.3 RA A.2 – Restore RCIC System to operable status in 14 Days**
		• Directs BOP NSO to secure LPCS

Event - 2
Description: LPCS/RCIC Corner Room Cooling Fan Failure

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release 'LPCS Corner Room Fan Trip'**

Simulator Operator Role Play
As Equipment Operator, when dispatched to investigate LPCS Corner Room fan and breaker, **wait 2 minutes** and report, "The LPCS/RCIC Pump Cubicle Cooler Fan has tripped on overcurrent."
If required, call US at 2300 as the Shift Manager and provide the following direction, "Secure LPCS Pump to prevent motor overheating due to the Corner Room Cooling Fan failure."
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: LPCS secured, TS determinations made, or per Lead Evaluator.

Event - 3		
Description: Partial ½ scram		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Identifies 1A Group 3 Scram solenoid light out and updates crew Per LOA-RP-101: • NOTE – VERIFY affected Scram solenoid light bulb not blown • CHECK and continue to monitor the following: • ONLY one RPS Bus – affected AND • Control Rods NOT moving • SUSPEND any HALF SCRAM testing in progress • CHECK RPS BUS Scram Sol Group light(s) out on a single RPS BUS: ● Scram Sol Group 1 and 4 OR ● Scram Sol Group 2 and 3 OR ● ONLY a single solenoid group light • RESET HALF SCRAM • Directs EO to CHECK all SSPV solenoids are re-energized using FLIR • VERIFY proper rod position per Auto Scan of All Rod Positions
	BOP	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required Per LOA-RP-101: • VERIFY affected 1C71-F18 fuse(s) NOT blown at panel 1H13-P609 or 1H13-P611 • Identifies fuse F18C is blown and replaces the fuse
	US	• Directs ATC NSO to enter LOA-RP-101 • Establishes manual scram criteria of partial HALF SCRAM with Control Rods moving and partial HALF SCRAM with >1 RPS Bus affected • Updates Shift Manager on current plant status

Event - 3
Description: Partial ½ scram

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release 'Partial Half Scram'**
When directed by the Lead Evaluator	**Release 'Fuse Replaced'**

Simulator Operator Role Play
As Equipment Operator, when directed to perform thermography on all SSPV solenoids, **wait 8 minutes** and report, "All SSPV solenoids are greater than 20°F above ambient.
Acknowledge reports as required.

NRC Evaluator Cue
After Event is released, when asked the status of the Scram solenoid light bulb, inform the ATC NSO that the light bulb is not blown.
When the BOP NSO verifies fuse F18C is not blown, ask how the fuse can be checked. - Fuse installed – Voltage check across the fuse. Zero voltage – fuse is not blown. 120VAC – fuse is blown. - Fuse removed – Resistance check across the fuse. Zero ohms – fuse is not blown. High resistance – fuse is blown. Once the BOP NSO has described checking the fuse, inform the BOP NSO that fuse F18C is blown and that they have a like-for-like replacement fuse that was checked not blown. Once the fuse is replaced, direct Sim Op to release Fuse Replaced block.
Terminus: Half Scram reset.

Event - 4		
Description: 1A TDRFP Seal Injection Pump Trip		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Identifies 1A TDRFP Seal Injection Pump tripped updates crew • May start 1B TDRFP Seal Injection Pump immediately Per LOR-1PM03J-A208: • VERIFY both TDRFP Seal Injection Pumps are operating • CHECK for confirmatory alarms A307 and A308 on high seal leakoff temperatures • Seal Injection Supply should be at least 40 psid as indicated on 1PI-FW189/192 to CHECK adequate seal cooling
	BOP	• Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required • Directs EO to investigate trip of 1A TDRFP Seal Injection Pump
	US	• Directs actions above • Updates Shift Manager on current plant status

Event - 4
Description: 1A TDRFP Seal Injection Pump Trip

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release '1A TDRFP Seal Injection Pump Trip'**

Simulator Operator Role Play
As Equipment Operator, when directed to investigate 1A TDRFP Seal Injection Pump trip, **wait 2 minutes** and report, "The 1A TDRFP Seal Injection Pump tripped on overcurrent."
As Equipment Operator, when directed to verify Seal Injection Supply, **wait 1 minute** and report, "Seal Injection Supply is currently 54 psid."
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: 1B TDRFP Seal Injection Pump running.

Event - 5		
Description: 'R' SRV Fails Open		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Identifies Reactor Power above 100% and updates crew Per LOA-PWR-101: • CHECK RPS setpoints NOT exceeded • CHECK Reactor Power is < 100% RTP (3546 MWt) • REDUCE Power to < 100% RTP by using RR FCV's or Control Rods • NOTIFY Shift Manager to INITIATE OP-AA-108-114 Post Transient Review • CHECK Reactor Pressure is LESS than 1005 psig • CHECK Reactor Power and core flow - OUTSIDE REGIONs 1 & 2 of the Power to Flow Map • CHECK FCL is LESS than MELLLA (113.2% FCL) on the Power to Flow Map • STOP any power increase • STABILIZE the Unit • RUN OD-20 • VERIFY applicable thermal hydraulic thermal limits are met – TS 3.2.1, 3.2.2, 3.2.3, and COLR • CHECK rad indications NORMAL • NOTIFY Chemistry to sample reactor coolant for iodine activity • CONTACT a QNE to Evaluate and Monitor Core Status
	BOP	• Identifies 'R' SRV is open and updates crew • Dispatches EO to AEER to standby and pull fuses for 'R' SRV Per LOA-SRV-101: • IDENTIFY SRV that has spuriously actuated or is stuck OPEN • Inform US to DECLARE SRV INOP • REDUCE Generator Load up to 100 Mwe using Recirc Flow as directed by the Unit Supervisor to maintain Reactor Power less than 100%

		• ENTER LOA-PWR-101, Unit 1 Unplanned Reactivity Addition, while continuing below • CYCLE SRV control switch from AUTO to OPEN and back to AUTO • CHECK SRV – OPEN • CONSIDER placing a loop of Suppression Pool cooling in operation (Event 6) • MONITOR Suppression Pool water temperature • REFER to Table 1 to IDENTIFY fuses associated with stuck open SRV • Direct EO to REMOVE appropriate fuses • CHECK SRV OPEN • REFER to TRM 3.3.d
	US	• Directs ATC NSO to enter LOA-PWR-101 • Directs BOP NSO to enter LOA-SRV-101 • Establishes manual scram criteria of RPS Setpoints exceeded and an automatic scram failed to occur • Enters LGA-003 on high Suppression Pool Water Level • Reviews TS and enters **TRM 3.3.d:** • **RA A.2 – Restore required channel to OPERABLE status within 7 Days** • Updates Shift Manager on current plant status

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Event - 5
Description: 'R' SRV Fails Open

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release ''R' SRV Fails Open'**
When directed by the Crew	**Release 'Pull 'R' SRV Fuses'**

Simulator Operator Role Play
As Equipment Operator, when directed to report to the AEER to pull fuses for 'R' SRV, **wait 4 minutes** and inform the MRC, "I am ready to pull fuses for 'R' SRV". When directed to pull 'R' SRV fuses, acknowledge order, **wait 10 seconds**, then perform Sim Op Action above to pull fuses. Inform the NSO, "Fuses are removed for 'R' SRV".
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
'R' SRV will not close when fuses are removed.
Terminus: Continues to next Event.

Event - 6		
Description: 1B or 1D RHRSW Pump Trip		
Initiation: Automatically per scenario		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Continues performing LOA-PWR-101 actions as described in Event 5 • Monitors control room panels and notifies the US of any unusual or unexpected conditions • Provides peer checks as required
	BOP	Per LGA-RH-103 hardcard: • OPEN 1A/1B RHR Hx Service Water Outlet Valve: o 1E12-F068A o 1E12-F068B • At approximately 9 to 10 seconds after taking the 1E12-F068A/B switch to OPEN, START first RHR Service Water Pump • 1A RHR: o Service Water Pump A o Service Water Pump B o 1B RHR: o Service Water Pump C o Service Water Pump D • When indicated flow reaches 3000 gpm, START second RHR Service Water Pump • Identifies trip of 1B or 1D RHRSW pump and informs US • STOP 1A or 1D RHRSW pump • CLOSE 1E12-F068A/B • Reperforms above actions on other RHR Division • START 1A/1B RHR Pump • ESTABLISH RHR flow of at least 7200 gpm • THROTTLE 1E12-F024A/B OPEN • CLOSE 1E12-F048A/B by placing A/B HTX Bypass Throttle/Seal in switch to SEAL IN and CLOSE 1E12-F048A/B

	US	• Directs BOP NSO to start one loop of Suppression Pool Cooling
		• Directs BOP NSO to start Suppression Pool Cooling on other RHR Division
		• Reviews TS and enters the following:
		  • **3.7.1 RA A.1 – Restore RHRSW subsystem to OPERABLE status within 7 Days**
		  ○ **3.6.2.2 RA A.1 – Restore suppression pool water level to within limits within 2 Hours**
		  • **3.6.2.3 RA A.1 – Restore RHR suppression pool cooling subsystem to OPERABLE status within 7 Days**
		• Updates Shift Manager on current plant status

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Event - 6
Description: 1B or 1D RHRSW Pump Trip

Simulator Operator Actions	
Built into SmartScenario	**Trip 1B/1D RHRSW Pump**

Simulator Operator Role Play
As Equipment Operator, if directed to investigate trip of the 1B/1D RHRSW Pump, **wait 3 minutes** and report, “The 1B/1D RHRSW Pump tripped on overcurrent”.
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR’s
Tech Spec 3.6.2.2 is applicable once Suppression Pool Water level is > 3 inches. May not enter before next Event.
Terminus: Power reduction complete and Suppression Pool Cooling established.

Event - 7		
Description: Spurious Group 1 Isolation		
Initiation: Per Lead Evaluator		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**

	ATC	• Identifies multiple MSIV closures and updates crew
		• Announces reactor scram and performs scram choreography
		  • ARM and DEPRESS Scram buttons
		  • PLACE Reactor Mode Switch to SHUTDOWN
		• INSERT IRMs and SRMs
		• CHECK all Control Rods in and power decreasing
		• INFORM Supervisor of Control Rod Status and Reactor Power
		• Maintains RPV level band of -30 to +50 inches using FW and ECCS as directed by US
		• Maintains RPV pressure band of 800 to 1000 psig using SRVs as directed by US

	BOP	• May identify multiple MSIV closures and updates crew • Performs Scram Choregraphy • VERIFY Main Turbine/Generator Trip
	US	• Enters LGA-001 and directs actions • Directs ATC NSO to maintain RPV level band of -30 to +50 inches using FW and ECCS, and pressure band of 800 to 1000 psig using SRVs

Event - 7
Description: Spurious Group 1 Isolation

Simulator Operator Actions	
When directed by the Lead Evaluator	**Release 'Spurious Group 1'**

Simulator Operator Role Play
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: Continues to next Event

Event - 8		
Description: 'R' SRV Tailpipe break in SC airspace		
Initiation: Automatically per scenario		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Continues to maintain RPV level band of 20 to 50 inches using FW, and maintains pressure in band with SRVs as directed by the US • Monitors control room panels and notifies the US of any unusual or unexpected conditions
	BOP	Per LGA-RH-103: • VERIFY 1A/1B RHR Pump is running • OPEN 1E12-F027A/B **(CT-2)** • Maximizes Suppression Pool Cooling as directed by US Per LGA-RH-103: • OPEN 1A/1B RHR Hx Service Water Outlet Valve 1E12-F068A(B) • At approximately 9 to 10 seconds after taking the 1E12-F068A/B switch to OPEN, START first RHR Service Water Pump A/B/C/D • When indicated flow reaches 3000 gpm, START second RHR Service Water Pump • START 1A/1B RHR Pump • THROTTLE 1E12-F024A/B OPEN **(CT-1)** **Suppression Pool Temperature for CT-1 Evaluation: _____** • CLOSE 1E12-F048A/B by placing A/B HTX Bypass Throttle/Seal in switch to SEAL IN and CLOSE 1E12-F048A/B Per LOP-RH-05 for RHRWS with only one pump, if directed by US: • PLACE the appropriate Thermal Overload Bypass switch to TEST. ○ O/L Bypass For 1E12-F003A, 4A, 6A, 47A, 68A, 73A, 74A ○ O/L Bypass For 1E12-F003B, 4B, 4C, 6B, 47B, 68B, 73B, 74B, 93, 94 • Direct EO to perform local actions of Step E.4.2 or E.4.3

	US	• Enters LGA-003 and directs actions • Directs new pressure band consistent with current pressure and trend • Directs BOP NSO to establish Suppression Chamber Sprays **(CT-2)** • Directs BOP to maximize Suppression Pool Cooling **(CT-1)** • Identifies Primary Containment bypass path and updates crew

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Event - 8
Description: 'R' SRV Tailpipe break in SC airspace

Simulator Operator Actions	
Built into SmartScenario	**'R' SRV Tailpipe Break**

Simulator Operator Role Play
As Equipment Operator, if directed to perform local actions of LOP-RH-05 Section E.4 (Steps E.4.2.1 and E.4.2.2, or E.4.3.1 and E.4.3.2), acknowledge order and reply, "I will get a copy of the procedure and have the WEC mark it up".
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
The SRV tailpipe break in the Suppression Chamber airspace will result in a bypass path as indicated by Drywell and Suppression Chamber pressure rising at approximately the same value and trend.
Terminus: Continues to next Event.

Event - 9		
Description: First loop of DW Sprays fails		
Initiation: Automatically per scenario		
Task/ Obj.	**Position**	**EXPECTED OPERATOR RESPONSE**
	ATC	• Continues to maintain RPV level band of 20 to 50 inches using FW, and maintains pressure in band with SRVs as directed by the US • Monitors control room panels and notifies the US of any unusual or unexpected conditions

	BOP	• Trips RR Pumps as directed by the US:
		  • Places 1A/B, 2A/B, and 3A/B RR Pump breaker C/S's to PTL
		• Establishes Drywell Sprays as directed by the US
		Per LGA-RH-103:
		• VERIFY 1A/1B RHR Pump is running
		• CLOSE 1E12-F024A/B
		• OPEN:
		  • 1E12-F016A/B
		• Identifies that 1E12-F016A/B failed to open and informs US
		• Establishes Drywell Sprays on other RHR loop
		• VERIFY 1A/1B RHR Pump is running
		• CLOSE 1E12-F024A/B
		• OPEN:
		  • 1E12-F016A/B
		  • 1E12-F017A/B

	US	• Directs new pressure band consistent with current pressure and trend • Directs BOP NSO to trip RR Pumps • Verifies the Drywell Spray Initiation Limit • Directs BOP NSO to establish Drywell Sprays

Event – 9
Description: First loop of DW Sprays fails

Simulator Operator Actions	
Built into SmartScenario	**1E12-F016A/B Fails**

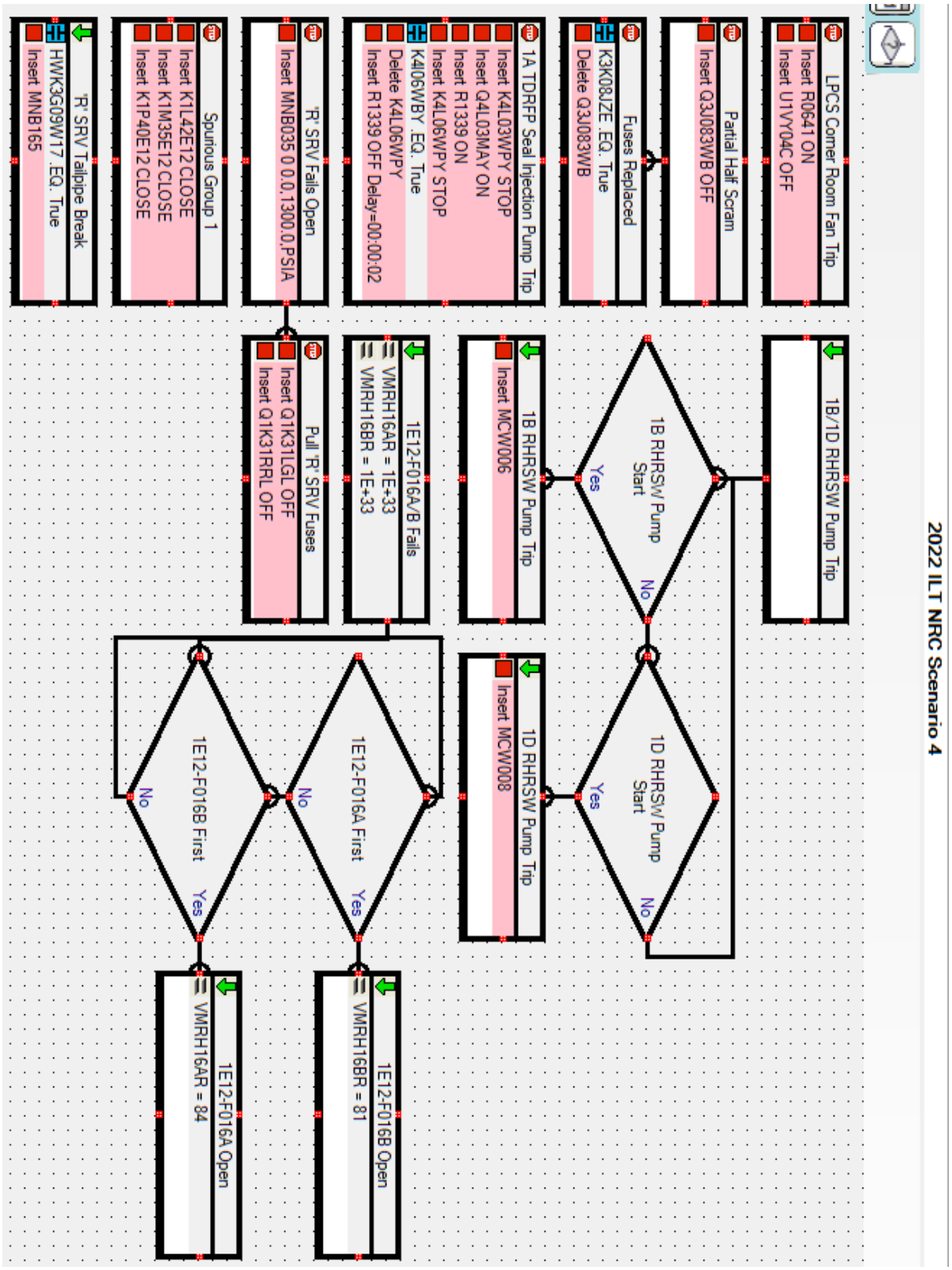
Simulator Operator Role Play
Acknowledge reports as required.

Floor Instructor Notes/OPEX/TR's
Terminus: Drywell Sprays initiated, RPV level in band of -30 to +50 inches, or per Lead Evaluator.

REFERENCES

Procedure	Title
1. INPO 15-004	Operations Fundamentals
2. IER 17-5	Line of Sight to the Core
3. LGA-001	RPV Control
4. LGA-003	Primary Containment Control
5. LOA-PWR-101	Unit 1 Unplanned Reactivity Addition
6. LOA-RP-101	Unit 1 Loss Of Reactor Protection System Power
7. LOA-SRV-101	UNIT 1 Stuck Open Safety Relief Valve
8. LOR-1H13-P601-C407	LPCS/RCIC Pump Cubicle Cooling Fan Auto Trip
9. LOR-1PM03J-A208	1A TDRFP Seal Injection Pump Pressure Low
10. LOS-LP-Q1	LPCS System Inservice Test
11. LGA-RH-103	Unit 1 A/B RHR Operations in the LGAs/LSMAGs
12. LGP-3-2	Reactor SCRAM
13. LPGP-PSTG-07	Plant Specific Technical Guidelines And Plant-Specific Severe Accident Guidelines Volume VII, LGA-Related Hard Cards
14. OP-LA-101-111-1002	LaSalle Operations Philosophy Handbook
15. OP-LA-103-102-1002	Strategies for Successful Transient Mitigation
16. OP-AA-106-101	Significant Event Reporting

SMARTSCENARIO FILE



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U1 SUPERVISOR TURNOVER

Shift: **Days**
Date: **Today**
Mode: **1**
OLR: **Green**
Work Week: **Div 1**

Unit 1 power level

- 100 % Power
-
-
-

Unit 2 power level

- 100 % Power
-
-
-

U1 Thermal Limit Issues /Power Evolutions

- None

U2 Thermal Limit Issues /Power Evolutions

- None

Existing LCOs, date of next surveillance

- TRM 3.7.j RA A.1 – 6 Days remaining

Existing LCOs, date of next surveillance

- None

LOSs in progress or major maintenance

- LOS-LP-Q1, LPCS System Inservice Test

LOSs in progress or major maintenance

- None

⇒ **Equipment removed from service or currently unavailable**

- 0B DFP OOS for strainer maintenance
- None

Grid Status is Green

⇒ **Comments, evolutions, problems, etc.**

- Continue with LOS-LP-Q1 starting at Step A.5.

⇒ **Comments, evolutions, problems, etc.**

- Non-Div Workweek. OLR is Green