ILT 22-1 NRC Exam Scenario 1

Facility:	CPS	Scenario #:	1
Scenario Source:		Op. Test #:	2023-301
Examiners:		Applicants/ Operators:	

Initial Conditions:

- Mode 1 at 56% power.
- Weather conditions are calm and clear.
- CRD Drive Water Pump 1A (1C11-C001A) is out of Service (OOS) for maintenance.

Turnover:

- Priorities for the shift are as follows:
  - First Priority – Shift Generator Stator Cooling Pumps IAW CPS 3110.01 Generator Stator Cooling (GC) section 8.2.4 Shifting GC Water Pumps (MCR).
  - Continue with power ascension to 62% IAW CPS 3005.01 Unit Power Changes using rods.
- CPS 3005.01 is complete through Step 8.3.10.
- Control rods - Step 24 is current / Gang 9C @ position 48.

Critical Tasks:

- **[CT-1]** TCA-10 BOP/ATC starts Standby Liquid Control Pumps to shut down the reactor within 120 seconds of the time at which the ATWS trip setpoint is reached (RPV pressure of 1127 psig).
- **[CT-2]** Terminates and prevents Condensate and Feedwater within 120 seconds of ATWS.

Event No.	Malf. No.	Event Type*	Event Description
N/A	YPXREMPO_3 80	N/A	Initial Lake temperature. Necessary for WS failure to ensure WS loads are high enough to cause WS pressure to drop below auto start setpoint for standby pump.
1	NA	N-BOP	(NEW) Shift Generator Stator Cooling (GC) Pumps
2	A04_A18_A02_4 Manual A04_A18_A02_7 Press	I-BOP MC-BOP	EHC Temperature Controller Failure
3	N/A	R-ATC	Raise Power with rods to 62%
4	ROD3637TFIA3	C-ATC TS-SRO	Rod drifts outward
5	WS01BWS1PCFTC WS01PA	C-BOP	(NEW) WS pump A trip, WS pump C fails to auto start
6	A01_A08_A01_1	I-ATC MC-ATC	(NEW) Hotwell Overflow Controller Failure
7	YP_XMFTB_4093 FCV_A_RUNBACK_INHIBIT	I-ATC TS-SRO	(NEW) FW Pump B Trip, Recirc FCV A fails to move
8	YP_XMFTB_5001/3/4 GROUP_1_ISOL_MALF LS10_MALF 2-minute delay: COREOSC	M-All	Inadvertent Group 1 Isolation / Partial ATWS / RCIS Lockup
9	YP_XREMT_737	C-BOP	(NEW) Reactor Water Cleanup System fails to isolate on SLC Pump start

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

ILT 22-1 NRC Exam Scenario 2

Facility: Clinton Power Station — Scenario No.: 2
Scenario Source: _____ — Operating Test No.: 2023-301
Examiners: _____ — Operators: _____
_____ — _____
_____ — _____

Initial Conditions:

- Mode 1 Rx Power at RTP.
- It is Sunday, day shift.
- Weather conditions are calm and clear.
- CRD Drive Water Pump 1A (1C11-C001A) is Out of Service (OOS) for maintenance; expected return is 3 days.

Turnover:

- Priorities:
  - Perform H_2 Mixing System Operability IAW CPS 9068.01 Hydrogen Mixing System Operability Test (Quarterly Run) starting at step 8.1. An extra equipment operator is briefed, staged and ready to obtain data at the Div 1 Mixing Compressor.
  - Lower reactor power using control rods in reverse sequence and RR flow to 86% at 100 Mwe/hr to support upcoming surveillance testing.

Critical Tasks:

[CT-1] Place the Reactor Mode Switch in Shutdown within 20 minutes of the time second accumulator trouble is received.

[CT-2] Trip the main turbine or close MSIVs to prevent an RCS cooldown in excess of 100°F in any one-hour period.

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	N-BOP	(NEW) H_2 Mixing System Operability Surveillance (Quarterly Run) IAW CPS 9068.01 (Div 1)
2	1HG02CA-1A=1	TS-SRO	1HG02CA Compressor Motor Failure (Shaft Break)
3	1VF04CA 1VF04CB	C-BOP MC-BOP TS-SRO	(NEW) VF Exhaust and Supply Fans Trip
4	N/A	R-ATC	Lower Reactor Power with Rods and Flow
5	D005_IOMODULE_1_2_8_C10F START	I-ATC	(NEW) Spurious Start of MDRFP
6	A02_A05_01_7_TVM=2	C-ATC	(NEW) CRD high temperature
7	YFFWPPSS_13	C-BOP	(NEW) MC Pump 'B' coupling failure
8	YP_XMFTB_4992 A04_A28_S23=2	C-BOP MC-BOP	Trip of MSOP / ESOP fails to auto start
9	YP_XMFTB_4853	M-All	(NEW) Trip of CRD Drive Water Pump 1B / Complete Loss of CRD / Scram
10	TC_MFTRP YAMSSIFP_1 100 YAMSSIFP_5 100 YPXMALSE_595 25	I-ATC C-BOP MC-ATC	(NEW) Main Turbine Fails to trip, A MSL Inboard and Outboard MSIVs fail to close, TCV #2 sticks at 25%. Main turbine can be tripped manually and inboard MSIV can be closed. All necessary to preserve conditions for [CT-2].

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

Form 3.3-1 NRC Scenario 3 Outline

Facility:	CPS	Scenario #:	3
Scenario Source:		Op. Test #:	2023-301
Examiners:		Applicants/ Operators:	

Initial Conditions:

- 50% Power.
- CRD Drive Water Pump 1A (1C11-C001A) is out of Service (OOS) for maintenance.
- 1B TDRFP is out of service to repair an oil leak. It is expected back in service next shift.

Turnover:

- Raising power per 3005.01, Unit Power Changes, step 8.1.4. Current step is 8.1.9.
- Continued operation with the MDRFP has been approved by Senior Management and NSED.
- MSR's will not be placed in service at this time.
- Priorities for the shift are as follows
- First priority - Swap SPCU pumps per CPS 3318.01, SUPPRESSION POOL CLEANUP/TRANSFER (SF) section 8.1.2
- Second priority - Continue to raise power to 65% using control rods. Currently at step 26 Gang 10B @ notch 8.

Critical Tasks:

- **[CT-1]** Start the standby Service Air Compressor before 5006-4G Rod Drift annunciator is received.
- **[CT-2]** Initiate at least one train of Containment Spray (CS):
  - Before anticipating blowdown or performing Blowdown, and within the OK To Spray region of the Containment Spray Initiation Limit Curve
- **[CT-3]** Manually inject with HPCS prior to Reactor Water Level reaching TAF.

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	N-BOP	(NEW) Swap SF pumps
2	N/A	R-ATC	Raise reactor power with rods
3	A01_A08_A02_4 Manual A01_A08_A02_7 False	C-ATC MC-ATC	Hotwell M/U Controller Failure
4	= ri_18 = True	TS-SRO	(NEW) RCIC Inadvertent Overspeed Trip
5	CC01PC	C-BOP	(NEW) 1C CCW Pump Trip
6	RR_A_STATOR_WDG 270	C-ATC TS-SRO	(NEW) RR 'A' High Stator Temperature / Emergency Loop Shutdown
7	1SA01C Shaft Seize S YP_XREMT_782 Disable	C-BOP MC-BOP	#1 SA Compressor Trip, Standby Fails to Auto Start
8	A05_A02_A10S24A Arm A05_A02_A10S24B_1 Press A05_A02_A11S33A Arm A05_A02_A11S33B_1 Press YPXMALSE_250 1.5% YPCTHOLE 2%	M-All	(NEW) Steam Leak with Drywell Leak to Containment (Auto Containment Spray defeated)
9	YPXMALSE_510 0.1% YP_XMFTB_4101 HP10CON45FSP	C-BOP	RCIC failure / 6.9KV Bus 1B loss / HPCS Pump fails to auto start / HPCS Injection Valve fails to auto open

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