

Facility: Dresden                      Scenario No: ILT-N-1                      Op-Test No: ILT 05-1

Examiners: \_\_\_\_\_ Operators: \_\_\_\_\_

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Initial Conditions: Full reactor power; IRM channel 12 out of service; 2B EHC Pump OOS; Unit 3 is in Mode 1.

Turnover: Power ascension in progress.

Event No.	Malf. No.	Event Type*		Event Description
1	rdfail5	I	NSO SRO	RPIS failure for rod F5 <sup>T</sup>
2	hp7	R	NSO SRO	Trip of 2B circ water pump / Load Drop
3	rrmgmboc radffd	C	NSO SRO	Trip of the 2B recirc pump <sup>T</sup> / Fuel Element Failure
4	hp6	C	NSO SRO	Trip of 2A circ water pump / Loss of Main Condenser
5	hp5 b12	M	NSO SRO	Manual Reactor Scram with ATWS (Failure of RPS to de-energize and ARI successful)
6	ic1vbn icstmrB	M	NSO SRO	Unisolable Isolation Condenser steam line leak into the Reactor Building / Emergency Depressurize

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

## **Scenario Sequence**

- An RPIS failure to a rod occurs and that rod must be driven in fully.
- 2B Circulating Water Pump trips resulting in decreasing Main Condenser Vacuum. The crew reduces power to restore vacuum to within operating limits.
- An electrical fault causes the 2B recirc MG set to trip. The team will carry out actions for a recirc pump trip, and enter single loop operation. A fuel element failure occurs due to all the power changes.
- 2A Circulating Water Pump trips causing a loss of the Main Condenser. This requires the crew to perform a Manual Scram.
- An ATWS condition exists due to a failure of RPS to de-energize but ARI is successful. The team will control pressure using the Isolation Condenser.
- A leak into the Reactor Building develops from the Isolation Condenser steam line, between the 1 and 2 valves. The 1 valve will not isolate, challenging secondary containment.
- A fuel element failure (previously installed) raises radiation levels in the reactor building to the point where the team must Emergency Depressurize.
- The scenario is terminated when the Emergency Depressurization is in progress and the plant stabilized.

Facility: Dresden                      Scenario No: ILT-N-2                      Op-Test No: ILT 05-1

Examiners: \_\_\_\_\_ Operators: \_\_\_\_\_

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Initial Conditions: ~1% reactor power; IRM channel 12 out of service; 2B EHC Pump OOS; 2B RFP OOS, Unit 3 is in Mode 1.

Turnover: Power ascension in progress.

Event No.	Malf. No.	Event Type*		Event Description
1	N/A	R	NSO SRO	Raise Reactor power by withdrawing control rods
2	rode11do	C	NSO SRO	Control Rod Drift Out <sup>T</sup>
3	nii14pot	I	NSO SRO	IRM channel 14 fails upscale with failure to half scram <sup>T</sup>
4	f44	M	NSO SRO	Recirc loop leak (rising D/W pressure)
5	h31 h33 h34 at37 at43	M	NSO SRO	2A RFP trips & 2C RFP fails to start / HPCI spuriously isolates. (loss of high pressure feed) Emergency Depressurization.

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

## **Scenario Sequence**

- The NSO, as directed by the SRO, continues the power ascension for unit startup by control rod withdrawal.
- During the control rod withdrawal, a control rod begins to drift out when moved. NSO must insert the rod to position 00 and it latches in when fully inserted.
- IRM channel 14 fails upscale, without a half-scam. The NSO inserts an A channel half scram. NSO/SRO recognize that it cannot be bypassed and the SRO must make the Tech Spec determination.
- A recirculation loop develops a leak causing drywell pressure to slowly increase. Shortly thereafter, 2A RFP trips and 2C fails to start. When HPCI starts, it spuriously isolates, resulting in a total loss of high pressure feed. After the reactor scram, the team should perform the RPV Control and Primary Containment Control DEOPs. The leak worsens causing RPV level to drop to TAF. The team should Emergency Depressurize and restore RPV level with low pressure injection systems.

Facility: Dresden                      Scenario No: ILT-N-3                      Op-Test No: ILT 05-1

Examiners: \_\_\_\_\_ Operators: \_\_\_\_\_

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Initial Conditions: ~82% reactor power; IRM channel 12 out of service; 2B EHC Pump OOS; 2B RFP OOS, Unit 3 is in Mode 1.

Turnover: Steady. Operating per Load Dispatcher.

Event No.	Malf. No.	Event Type*		Event Description
1	ser1589 ser0710 t18	C	ANSO SRO	Emergency Diesel Generator Inoperable due to cooling water pump failure. <sup>T</sup>
2	ads3cbn ads3csd	C	ANSO SRO	Spurious ERV Opening. Pulling its fuses closes the ERV. <sup>T</sup>
3	ser1784 wrppdsh1 ser1735 ser0369 ser0322 rrmpmahi rrmpmbhi	C	ANSO SRO	Loss of RBCCW / Manual Scram
4	B12 ser1026 ser1060 aw4	M	Crew	Electrical ATWS / ARI Unsuccessful
5	ads4bsd	M	Crew	Drywell Steam Leak due to Safety Valve opening / Spray The Drywell

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

### **Scenario Sequence**

- The Unit 2 Emergency Diesel Generator (EDG) cooling water pump trips rendering the EDG Inoperable.
- An ERV spuriously opens due to an electrical failure. Pulling its fuses closes the ERV.
- A Loss of RBCCW occurs due to a pipe rupture in the RX Bldg. A Manual Scram is required due to impending loss of flow to the Recirc pumps.
- An electrical ATWS occurs and ARI is unsuccessful. Pulling Scram fuses and/or venting the scram air header are successful.
- A Drywell Steam Leak occurs due to a Safety Valve opening. Spraying the Drywell is required to control Drywell pressure.