Facility: PRAIRIE ISLAND Scenario No.: 1 Op-Test No.: PI-ILT-NRC-1801

Examiners: Randy Baker
Chuck Zoia
Jesse Seymour

Operators: Shift Supervisor
Lead Reactor Operator
Reactor Operator

Initial Conditions:

Reactor Power at $1x10^{-8}$ amps, Boron Concentration at 1346 ppm, RCS temperature at 549°F, RCS pressure at 2235 psig, Xenon free prior to startup, Bank D rods at 140 steps, Generator Power at 0 MW. Backup pressurizer heaters are ON. Two 40 GPM letdown orifices are in service.

No equipment out of service.

Turnover:

Raise reactor power to the point of adding heat.

Secure 12 MD AFW Pump.

Event No.	Malf. No.	Event Type*	Event Description
1		R (ATC) N (SRO)	RAISE POWER TO THE POAH
2		N (BOP)	SECURE 12 MD AUXILIARY FEEDWATER PUMP
3		I (ATC, SRO) TS (SRO)	PRZR LEVEL WHITE (INTRLK) CHANNEL FAILS HIGH
4		C (BOP, SRO) TS (SRO)	'B' PRZR PORV LEAKAGE
5		M (ALL)	12 STEAM GENERATOR TUBE RUPTURE
6		C (BOP)	11 & 12 SAFETY INJECTION PUMPS FAIL TO START AUTOMATICALLY
7		C (BOP)	CTMT ISOLATION RELAY AUTO ACTUATION FAILURE

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

Facility: PRAIRIE ISLAND Scenario No.: 2 Op-Test No.: PI-ILT-NRC-1802

Examiners: Randy Baker
Chuck Zoia
Jesse Seymour

Operators: Shift Supervisor
Lead Reactor Operator
Reactor Operator

Initial Conditions:

Reactor Power at 50%, Boron Concentration 1539 ppm, RCS temperature 552°, RCS pressure 2235 psig, Xenon at equilibrium, Bank D rods at 168 steps, Generator power at 270 Mw.

11 TD AFW Pump is out of service. T.S. LCO 3.7.5 Condition B entered with 48 hours remaining. 12 MD AFW Pump is protected.

Turnover:

Place a 2nd 40 gpm Letdown orifice in service in preparation for reactor up power.

Raise reactor power to 60%.

Event No.	Malf. No.	Event Type*	Event Description
1		N (BOP)	PLACE 2nd LETDOWN ORIFICE IN SERVICE
2		R (ATC) N (SRO)	RAISE RX POWER FROM 50% TO 60%
3		I (ATC, SRO) TS (SRO)	CONTROLLING PRZR PRESS CH FAILS LOW
4		C (BOP, SRO) TS (SRO)	SI ACCUMULATOR LEAKAGE
5		M (ALL)	LBLOCA, w/ TRANSFER to RECIRCULATION
6		C (BOP)	SAFETY INJECTION PUMPS FAIL TO AUTO START
7		C (BOP)	SI TO CC RELAY ACTUATION FAILURE
8		C (ATC)	12 MDAFWP AUTO START FAILURE

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

Appendix D **Scenario Outline** **Form ES-D-1**

Facility: PRAIRIE ISLAND Scenario No.: 3 Op-Test No.: PI-ILT-NRC-1803

Examiners: Randy Baker
Chuck Zoia
Jesse Seymour

Operators: Shift Supervisor
Lead Reactor Operator
Reactor Operator

Initial Conditions:

Reactor Power at 100%, Boron Concentration is 828 ppm, RCS temperature 560°, RCS pressure at 2235 psig, Xenon at equilibrium, Bank D rods at 218, Generator power at 580 Mw.

11 RHR Pump out of service. T.S. LCO 3.5.2 Condition A was entered with 48 hours remaining. D2, 12 MD AFW Pump, 12 RHR Pump, 12 SI Pump, 12 CC Pump, and 22 CL Wtr Pump are protected.

Turnover:

Swap CRDM Fans IAW TP 1393 and 1C19.2.

Event No.	Malf. No.	Event Type*	Event Description
1		N (BOP)	SWAP CRDM FANS
2		I (ATC, SRO) TS (SRO)	TAVG YELLOW CHANNEL FAILS HIGH
3		R (ATC) N (SRO)	RESTORE TAVG TO TREF
4		C (BOP, SRO)	FAULTY GENERATOR AUTOMATIC VOLTAGE REGULATOR
5		C (ATC, SRO) TS (SRO)	REACTOR VESSEL O-RING LEAKAGE
6		M (ALL)	FAULTED 12 STEAM GENERATOR TO CONTAINMENT
7		C (BOP)	MAIN TURBINE FAILS TO AUTOMATICALLY TRIP
8		C (BOP)	SI TO FEEDWATER/CONDENSATE RELAY SIGNAL FAILURE

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

Facility: PRAIRIE ISLAND Scenario No.: 4 Op-Test No.: PI-ILT-NRC-1804

Examiners: Randy Baker
Chuck Zoia
Jesse Seymour

Operators: Shift Supervisor
Lead Reactor Operator
Reactor Operator

Initial Conditions:

Reactor Power at 90%, Boron Concentration at 858 ppm, RCS temperature at 558°, RCS pressure at 2235 psig, Xenon at equilibrium, Bank D rods at 208, Generator Power at 525 Mw.

D2 Diesel Generator is out of service. T.S. LCO 3.8.1 Condition B was entered with 9 days remaining. D1 Diesel Generator has been evaluated for common cause failure and has been determined to be OPERABLE. D1, 11 TD AFW Pump, 11 RHR Pump, 11 SI Pump, 11 CC Pump, 12 CL WTR Pump, 121 CR Air Supply Fan, 121 CR Chiller & Pump, and 121 CR Clean up Fan are protected. SP 1118 was completed 1 hour ago and is due in 5 hours.

Turnover:

Swap 11 & 12 EH oil pumps.

Event No.	Malf. No.	Event Type*	Event Description
1		N (BOP)	SWAP EH OIL PUMPS
2		I (ATC, SRO) TS(SRO)	PRZR LEVEL WHITE CHANNEL FAILS LOW
3		I(ATC, SRO) TS(SRO)	FIRST STAGE PRESSURE FAILS LOW
4		R(ATC) N(SRO)	RESTORE TAVG TO TREF
5		M(ALL)	LOSS OF ALL AC
6		C(BOP)	D1 FAILS TO AUTO START
7		C(ATC)	11 TD AFW PUMP FAILS TO AUTO START

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