Facility:	Ginna	Date of Examination:	3/2017
Exam Level:	RO	Operating Test No.:	N17-1

Control Room Systems@ (8 for RO)			
	System / JPM Title	Type Code*	Safety Function
A.	EPE E14 High Containment Pressure [EPE E14 EA1.1 (3.7/3.7)] Verify Containment Isolation and Heat Removal	S, P, D, A, EN	5
B.	003 Reactor Coolant Pump System [003 A4.01 (3.3/3.2)] Start an RCP during Plant Startup	S, D, A, L	4P
C.	059 Main Feedwater System [059 A2.12 (3.1/3.4)] Placing Main FRV in Auto when Bypass FRV is Controlling S/G Level in Auto	S, N, A	4S
D.	APE 003 Dropped Control Rod [APE 003 AA1.02 (3.6/3.4)] Dropped Rod Recovery w/Second Dropped Rod	S, M, A	1
E.	062 A. C. Electrical Distribution [062 A4.01 (3.3/3.1)] Establish 100/0 Electric Lineup on Circuit 767	S, P, D, A	6
F.	006 Emergency Core Cooling System [006 A4.02 (4.0/3.8)] Add Nitrogen to an SI Accumulator	S, D, EN	3
G.	029 Containment Purge System [029 A2.01 (2.9/3.6)] Startup the Containment Mini-Purge	S, D	8
H.	012 Reactor Protection System [012 A4.04 (3.3/3.3)] Defeat a Failed S/G Pressure Channel	S, D	7
In-Plant Systems@ (3 for RO)			
I.	APE 056 Loss of Off-Site Power [APE 056 AA1.03 (3.2/3.3)] Energize a Minimum of 100 KW B/U Heaters onto EDG	P, D, R, E	6
J.	004 Chemical and Volume Control System [004 A2.15 (3.5/3.7)] Take Local Manual Control of a Charging Pump	D, R, E	2
K.	EPE 029 Anticipated Transient Without Scram (ATWS) [EPE 029 EA1.11 (3.9/4.1)] Locally Open the Rx Trip Breakers	D, E	1

@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for RO / SRO-I / SRO-U
(A)lternate path	4-6 (5)
(C)ontrol room	
(D)irect from bank	≤ 9 (9)
(E)mergency or abnormal in-plant	≥ 1 (3)
(EN)gineered Safety Feature	≥ 1 (2) (Control Room System)
(L)ow-Power / Shutdown	≥ 1 (1)
(N)ew or (M)odified from bank including 1(A)	≥ 2 (2)
(P)revious 2 exams	≤ 3 (3) (Randomly Selected)
(R)CA	≥ 1 (2)
(S)imulator	

JPM Summary

JPM A This is a Bank JPM. The operator will be told that the plant tripped from 100% power and safety injection has actuated, that the crew entered E-0, Reactor Trip or Safety Injection, and then transitioned to E-2, Faulted Steam Generator Isolation, and that due to a degrading transient, an Orange Path now exists on the Containment Critical Safety Function Status Tree. The operator will be directed to verify Containment Isolation and Heat Removal systems are operating as expected by performing FR-Z.1, Response to High Containment Pressure, starting from Step 1. During the course of this action, the operator will recognize that two Containment Isolation Valves have failed to automatically close, and that the Containment Spray ESFAS Signal has failed to function. The operator will be expected to take action to verify Containment Isolation and Heat Removal systems are operating in accordance with Steps 1-3 of FR-Z.1. When the operator discovers that two Containment Isolation Valves have failed to close as expected the operator will close or direct that alternative valves be closed in accordance with ATT-3.0, Attachment CI/CVI. When it is revealed that one of the two actions on ATT-3.0 were unsuccessful at providing Containment Isolation **(Alternate Path)**, the operator will need to take actions to trip the Reactor Coolant Pumps, and close an alternate valve in the CCW System to fully achieve Containment Isolation. This JPM was on the N14-1 NRC Exam (One of Previous two NRC Exams).

JPM B This is a Bank JPM. The operator will be told that the plant is returning to service from a refueling outage, that the B RCP is running and that it is desired to start the A RCP. The operator will be directed to start the A RCP in accordance with O-1.1, Plant Heatup From Cold Shutdown to Hot Shutdown. Subsequent to the pump start an oil leak will develop on the pump motor **(Alternate Path).** The operator will be expected to start the "A" RCP per O-1.1 and S-2.1, and then diagnose a low oil level in the pump, and stop the pump per plant Annunciator Response Procedures.

JPM C This is a New JPM. The operator will be told that the "A" Main Feed Regulating Bypass Valve is operating in AUTO to allow I&C to complete corrective maintenance on the A FRV Controller, and that the maintenance is now complete. The operator will be directed to Place the A FRV back in AUTO and to close the A FRV Bypass Valve IAW Attachment 2, CROI-1 Placing Bypass FRV in Auto and Main FRV in Manual, of P-17, Operations Control Room Operating Instructions. While closing the Bypass Valve the A FRV will fail to control in AUTO **(Alternate Path)**, and the operator will need to take manual control of the A FRV to control S/G level.

JPM D This is a Modified JPM. The operator will be told that reactor power is stable at 42%, that a Control Rod E-11 dropped into the reactor core 24 hours ago, that AP-RCC.3, Dropped Rod Recovery, has been carried out, and that the crew is currently in ER-RCC.1, Retrieval of a Dropped Rod, and has completed this procedure through Step 6.2.3. The operator will be directed to recover the dropped rod in accordance with ER-RCC.1, starting with Step 6.2.4. During the course of the procedure implementation the operator will discover that a second control rod drops into the core **(Alternate Path)**. The operator will be expected to attempt to recover Control Rod E11 per ER-RCC.1; and then manually trip the reactor during the recovery when it is diagnosed that two dropped rods exist.

JPM E This is a Bank JPM. The operator will be told that the plant is operating at 100% power, that the Electric Plant is currently in a 50/50 NORMAL lineup, and that RG&E ECC has requested that the plant be placed in a 100/0 lineup on Circuit 767 for scheduled maintenance on offsite Circuit 7T later today. The operator will be directed to establish a 100/0 Electric Plant alignment per Section 6.3 of O-6.9.2, Establishing and/or Transferring Offsite Power to Bus 12A/Bus 12B. The operator will be expected to Transfer 4160V buses from a 50/50 NORMAL Lineup to 100/0 Lineup on Circuit 767, recognize a failure of breaker 52/12AY to auto trip **(Alternate Path)**, and implement Attachment 1, 7T/Bus 12A Circulating Current Contingency Action, of O-6.9.2 to realign the electric plant to a 50/50 lineup. This JPM was on the N12-1R NRC Exam (One of Previous two NRC Exams).

JPM F This is a Bank JPM. The operator will be told that the plant is operating at 100% power, and that MCB Annunciator C-11, ACCUMULATOR 1A (LOOP B) PRESS 730 PSI 760, has alarmed. The operator will be directed to coordinate with the Equipment Operator and raise the pressure in the A Accumulator to 745 ±10 psig per S-16.2, Nitrogen Makeup to the SI Accumulators, using nitrogen cluster A. The operator will be expected to raise the A SI Accumulator pressure to 745±10 psig per S-16.2.

JPM G This is a Bank JPM. The operator will be told that the plant is operating at 100% power. That a Containment entry for maintenance is scheduled, that a Containment Mini-Purge Release has been approved, and that the Prerequisites of S-23.2.3, Containment Mini-Purge System Operation have been established for startup of the Containment Mini-Purge System. The operator will be directed to startup the Containment Mini-Purge System per S-23.2.3. The operator will be expected to start the Containment Mini-Purge System per S-23.2.3.

JPM H This is a Bank JPM. The operator will be told that the plant was operating at 100% power when PI-468 failed low, that appropriate actions were taken to stabilize the plant, and that the brief for defeating the associated channel has been completed. The operator will be directed to defeat affected Steam Generator pressure channel as per Attachment 30, Red Channel – S/G Pressure Channel PI-468, of ER-INST.1, Reactor Protection Bistable Defeat After Instrumentation Loop Failure. The operator will be expected to defeat S/G Pressure Channel PI-468 using Attachment 30 of ER-INST.1.

JPM I This is a Bank JPM. The operator will be told that plant was operating at 100% power when it experienced an SI coincident with a loss of all AC power, that the B EDG is now running and carrying approximately 1650 KW on Buses 16 and 17, that PRZR level is 20% and stable, that CNMT pressure is 0.4 psig and that SI has been RESET. The operator will be directed to energize a minimum 100 KW of PRZR BACKUP heaters per ER-PRZR.1, Restoration of PRZR Heaters During Blackout. The operator will be expected to energize a minimum of 100KW of PRZR Heaters in accordance with ER-PRZR.1. This JPM was on the N12-1R NRC Exam (One of Previous two NRC Exams).

JPM J This is a Bank JPM. The operator will be told that a fire in the Cable Tunnel is on-going, forcing the crew to implement ER-FIRE.2, Alternate Shutdown For Cable Tunnel Fire. The operator will be directed to start and control the A Charging Pump in accordance with procedure ER-FIRE.2, Attachment 4, Step 8.0, until charging flow is verified to the RCS. The operator will be expected to start, control and initiate charging flow locally from the A Charging Pump per Attachment 4 of ER-FIRE.2.

JPM K This is a Bank JPM. The operator will be told that the plant has experienced a reactor trip signal and the crew entered procedure E-0, Reactor Trip or Safety Injection; and that the reactor trip could not be verified, and the crew entered FR-S.1, Response to Reactor Restart/ATWS. The operator will be directed to locally depress the trip pushbutton for BOTH Control Rod Drive Motor Generator Set Breakers at the CRDM Control Panel per the Step 1 RNO of FR-S.1. When the operator attempts to open the 52-2/MG1B Breaker, it will be discovered that this breaker will not trip; and the US will direct that the operator trip both of the Rx Trip Breakers locally. The operator will be expected to attempt to trip the Control Rod Drive Motor Generator Set Breaker(s); and when it is discovered that the 52-2/MG1B will not trip, manually trip both Rx Trip Breakers when directed.

Facility:	Ginna	Date of Examination:	3/2017
Exam Level:	SROI	Operating Test No.:	N17-1

Control Room Systems@ (7 for SRO-I)			
	System / JPM Title	Type Code*	Safety Function
A.	EPE E14 High Containment Pressure [EPE E14 EA1.1 (3.7/3.7)] Verify Containment Isolation and Heat Removal	S, P, D, A, EN	5
B.	003 Reactor Coolant Pump System [003 A4.01 (3.3/3.2)] Start an RCP during Plant Startup	S, D, A, L	4P
C.	059 Main Feedwater System [059 A2.12 (3.1/3.4)] Placing Main FRV in Auto when Bypass FRV is Controlling S/G Level in Auto	S, N, A	4S
D.	APE 003 Dropped Control Rod [APE 003 AA1.02 (3.6/3.4)] Dropped Rod Recovery w/Second Dropped Rod	S, M, A	1
E.	062 A. C. Electrical Distribution [062 A4.01 (3.3/3.1)] Establish 100/0 Electric Lineup on Circuit 767	S, P, D, A	6
F.	006 Emergency Core Cooling System [006 A4.02 (4.0/3.8)] Add Nitrogen to an SI Accumulator	S, D, EN	3
G.	029 Containment Purge System [029 A2.01 (2.9/3.6)] Startup the Containment Mini-Purge	S, D	8
H.	NA		
In-Plant Systems@ (3 for SRO-I)			
I.	APE 056 Loss of Off-Site Power [APE 056 AA1.03 (3.2/3.3)] Energize a Minimum of 100 KW B/U Heaters onto EDG	P, D, R, E	6
J.	004 Chemical and Volume Control System [004 A2.15 (3.5/3.7)] Take Local Manual Control of a Charging Pump	D, R, E	2
K.	EPE 029 Anticipated Transient Without Scram (ATWS) [EPE 029 EA1.11 (3.9/4.1)] Locally Open the Rx Trip Breakers	D, E	1

@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for SRO-I
(A)lternate path	4-6 (5)
(C)ontrol room	
(D)irect from bank	≤ 8 (8)
(E)mergency or abnormal in-plant	≥ 1 (3)
(EN)gineered Safety Feature	≥ 1 (2) (Control Room System)
(L)ow-Power / Shutdown	≥ 1 (1)
(N)ew or (M)odified from bank including 1(A)	≥ 2 (2)
(P)revious 2 exams	≤ 3 (3) (Randomly Selected)
(R)CA	≥ 1 (2)
(S)imulator	

JPM Summary

JPM A This is a Bank JPM. The operator will be told that the plant tripped from 100% power and safety injection has actuated, that the crew entered E-0, Reactor Trip or Safety Injection, and then transitioned to E-2, Faulted Steam Generator Isolation, and that due to a degrading transient, an Orange Path now exists on the Containment Critical Safety Function Status Tree. The operator will be directed to verify Containment Isolation and Heat Removal systems are operating as expected by performing FR-Z.1, Response to High Containment Pressure, starting from Step 1. During the course of this action, the operator will recognize that two Containment Isolation Valves have failed to automatically close, and that the Containment Spray ESFAS Signal has failed to function. The operator will be expected to take action to verify Containment Isolation and Heat Removal systems are operating in accordance with Steps 1-3 of FR-Z.1. When the operator discovers that two Containment Isolation Valves have failed to close as expected the operator will close or direct that alternative valves be closed in accordance with ATT-3.0, Attachment CI/CVI. When it is revealed that one of the two actions on ATT-3.0 were unsuccessful at providing Containment Isolation **(Alternate Path)**, the operator will need to take actions to trip the Reactor Coolant Pumps, and close an alternate valve in the CCW System to fully achieve Containment Isolation. This JPM was on the N14-1 NRC Exam (One of Previous two NRC Exams).

JPM B This is a Bank JPM. The operator will be told that the plant is returning to service from a refueling outage, that the B RCP is running and that it is desired to start the A RCP. The operator will be directed to start the A RCP in accordance with O-1.1, Plant Heatup From Cold Shutdown to Hot Shutdown. Subsequent to the pump start an oil leak will develop on the pump motor **(Alternate Path).** The operator will be expected to start the "A" RCP per O-1.1 and S-2.1, and then diagnose a low oil level in the pump, and stop the pump per plant Annunciator Response Procedures.

JPM C This is a New JPM. The operator will be told that the "A" Main Feed Regulating Bypass Valve is operating in AUTO to allow I&C to complete corrective maintenance on the A FRV Controller, and that the maintenance is now complete. The operator will be directed to Place the A FRV back in AUTO and to close the A FRV Bypass Valve IAW Attachment 2, CROI-1 Placing Bypass FRV in Auto and Main FRV in Manual, of P-17, Operations Control Room Operating Instructions. While closing the Bypass Valve the A FRV will fail to control in AUTO **(Alternate Path)**, and the operator will need to take manual control of the A FRV to control S/G level.

JPM D This is a Modified JPM. The operator will be told that reactor power is stable at 42%, that a Control Rod E-11 dropped into the reactor core 24 hours ago, that AP-RCC.3, Dropped Rod Recovery, has been carried out, and that the crew is currently in ER-RCC.1, Retrieval of a Dropped Rod, and has completed this procedure through Step 6.2.3. The operator will be directed to recover the dropped rod in accordance with ER-RCC.1, starting with Step 6.2.4. During the course of the procedure implementation the operator will discover that a second control rod drops into the core **(Alternate Path)**. The operator will be expected to attempt to recover Control Rod E11 per ER-RCC.1; and then manually trip the reactor during the recovery when it is diagnosed that two dropped rods exist.

JPM E This is a Bank JPM. The operator will be told that the plant is operating at 100% power, that the Electric Plant is currently in a 50/50 NORMAL lineup, and that RG&E ECC has requested that the plant be placed in a 100/0 lineup on Circuit 767 for scheduled maintenance on offsite Circuit 7T later today. The operator will be directed to establish a 100/0 Electric Plant alignment per Section 6.3 of O-6.9.2, Establishing and/or Transferring Offsite Power to Bus 12A/Bus 12B. The operator will be expected to Transfer 4160V buses from a 50/50 NORMAL Lineup to 100/0 Lineup on Circuit 767, recognize a failure of breaker 52/12AY to auto trip **(Alternate Path)**, and implement Attachment 1, 7T/Bus 12A Circulating Current Contingency Action, of O-6.9.2 to realign the electric plant to a 50/50 lineup. This JPM was on the N12-1R NRC Exam (One of Previous two NRC Exams).

JPM F This is a Bank JPM. The operator will be told that the plant is operating at 100% power, and that MCB Annunciator C-11, ACCUMULATOR 1A (LOOP B) PRESS 730 PSI 760, has alarmed. The operator will be directed to coordinate with the Equipment Operator and raise the pressure in the A Accumulator to 745 ±10 psig per S-16.2, Nitrogen Makeup to the SI Accumulators, using nitrogen cluster A. The operator will be expected to raise the A SI Accumulator pressure to 745±10 psig per S-16.2.

JPM G This is a Bank JPM. The operator will be told that the plant is operating at 100% power. That a Containment entry for maintenance is scheduled, that a Containment Mini-Purge Release has been approved, and that the Prerequisites of S-23.2.3, Containment Mini-Purge System Operation have been established for startup of the Containment Mini-Purge System. The operator will be directed to startup the Containment Mini-Purge System per S-23.2.3. The operator will be expected to start the Containment Mini-Purge System per S-23.2.3.

JPM I This is a Bank JPM. The operator will be told that plant was operating at 100% power when it experienced an SI coincident with a loss of all AC power, that the B EDG is now running and carrying approximately 1650 KW on Buses 16 and 17, that PRZR level is 20% and stable, that CNMT pressure is 0.4 psig and that SI has been RESET. The operator will be directed to energize a minimum 100 KW of PRZR BACKUP heaters per ER-PRZR.1, Restoration of PRZR Heaters During Blackout. The operator will be expected to energize a minimum of 100KW of PRZR Heaters in accordance with ER-PRZR.1. This JPM was on the N12-1R NRC Exam (One of Previous two NRC Exams).

JPM J This is a Bank JPM. The operator will be told that a fire in the Cable Tunnel is on-going, forcing the crew to implement ER-FIRE.2, Alternate Shutdown For Cable Tunnel Fire. The operator will be directed to start and control the A Charging Pump in accordance with procedure ER-FIRE.2, Attachment 4, Step 8.0, until charging flow is verified to the RCS. The operator will be expected to start, control and initiate charging flow locally from the A Charging Pump per Attachment 4 of ER-FIRE.2.

JPM K This is a Bank JPM. The operator will be told that the plant has experienced a reactor trip signal and the crew entered procedure E-0, Reactor Trip or Safety Injection; and that the reactor trip could not be verified, and the crew entered FR-S.1, Response to Reactor Restart/ATWS. The operator will be directed to locally depress the trip pushbutton for BOTH Control Rod Drive Motor Generator Set Breakers at the CRDM Control Panel per the Step 1 RNO of FR-S.1. When the operator attempts to open the 52-2/MG1B Breaker, it will be discovered that this breaker will not trip; and the US will direct that the operator trip both of the Rx Trip Breakers locally. The operator will be expected to attempt to trip the Control Rod Drive Motor Generator Set Breaker(s); and when it is discovered that the 52-2/MG1B will not trip, manually trip both Rx Trip Breakers when directed.

Facility:	Ginna	Date of Examination:	3/2017
Exam Level:	SRO-U	Operating Test No.:	N17-1

Control Room Systems@ (2 or 3 for SRO-U)			
	System / JPM Title	Type Code*	Safety Function
A.	EPE E14 High Containment Pressure [EPE E14 EA1.1 (3.7/3.7)] Verify Containment Isolation and Heat Removal	S, P, D, A, EN	5
B.	003 Reactor Coolant Pump System [003 A4.01 (3.3/3.2)] Start an RCP during Plant Startup	S, D, A, L	4P
C.	059 Main Feedwater System [059 A2.12 (3.1/3.4)] Placing Main FRV in Auto when Bypass FRV is Controlling S/G Level in Auto	S, N, A	4S
D.	NA		
E.	NA		
F.	NA		
G.	NA		
H.	NA		
In-Plant Systems@ (3 or 2 for SRO-U)			
I.	APE 056 Loss of Off-Site Power [APE 056 AA1.03 (3.2/3.3)] Energize a Minimum of 100 KW B/U Heaters onto EDG	P, D, R, E	6
J.	004 Chemical and Volume Control System [004 A2.15 (3.5/3.7)] Take Local Manual Control of a Charging Pump	D, R, E	2
K.	NA		

@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for SRO-U
(A)lternate path	2-3 (3)
(C)ontrol room	
(D)irect from bank	≤ 4 (4)
(E)mergency or abnormal in-plant	≥ 1 (2)
(EN)gineered Safety Feature	≥ 1 (1) (Control Room System)
(L)ow-Power / Shutdown	≥ 1 (1)
(N)ew or (M)odified from bank including 1(A)	≥ 1 (1)
(P)revious 2 exams	≤ 2 (2) (Randomly Selected)
(R)CA	≥ 1 (2)
(S)imulator	

JPM Summary

JPM A This is a Bank JPM. The operator will be told that the plant tripped from 100% power and safety injection has actuated, that the crew entered E-0, Reactor Trip or Safety Injection, and then transitioned to E-2, Faulted Steam Generator Isolation, and that due to a degrading transient, an Orange Path now exists on the Containment Critical Safety Function Status Tree. The operator will be directed to verify Containment Isolation and Heat Removal systems are operating as expected by performing FR-Z.1, Response to High Containment Pressure, starting from Step 1. During the course of this action, the operator will recognize that two Containment Isolation Valves have failed to automatically close, and that the Containment Spray ESFAS Signal has failed to function. The operator will be expected to take action to verify Containment Isolation and Heat Removal systems are operating in accordance with Steps 1-3 of FR-Z.1. When the operator discovers that two Containment Isolation Valves have failed to close as expected the operator will close or direct that alternative valves be closed in accordance with ATT-3.0, Attachment CI/CVI. When it is revealed that one of the two actions on ATT-3.0 were unsuccessful at providing Containment Isolation **(Alternate Path)**, the operator will need to take actions to trip the Reactor Coolant Pumps, and close an alternate valve in the CCW System to fully achieve Containment Isolation. This JPM was on the N14-1 NRC Exam (One of Previous two NRC Exams).

JPM B This is a Bank JPM. The operator will be told that the plant is returning to service from a refueling outage, that the B RCP is running and that it is desired to start the A RCP. The operator will be directed to start the A RCP in accordance with O-1.1, Plant Heatup From Cold Shutdown to Hot Shutdown. Subsequent to the pump start an oil leak will develop on the pump motor **(Alternate Path).** The operator will be expected to start the "A" RCP per O-1.1 and S-2.1, and then diagnose a low oil level in the pump, and stop the pump per plant Annunciator Response Procedures.

JPM C This is a New JPM. The operator will be told that the "A" Main Feed Regulating Bypass Valve is operating in AUTO to allow I&C to complete corrective maintenance on the A FRV Controller, and that the maintenance is now complete. The operator will be directed to Place the A FRV back in AUTO and to close the A FRV Bypass Valve IAW Attachment 2, CROI-1 Placing Bypass FRV in Auto and Main FRV in Manual, of P-17, Operations Control Room Operating Instructions. While closing the Bypass Valve the A FRV will fail to control in AUTO **(Alternate Path)**, and the operator will need to take manual control of the A FRV to control S/G level.

JPM I This is a Bank JPM. The operator will be told that plant was operating at 100% power when it experienced an SI coincident with a loss of all AC power, that the B EDG is now running and carrying approximately 1650 KW on Buses 16 and 17, that PRZR level is 20% and stable, that CNMT pressure is 0.4 psig and that SI has been RESET. The operator will be directed to energize a minimum 100 KW of PRZR BACKUP heaters per ER-PRZR.1, Restoration of PRZR Heaters During Blackout. The operator will be expected to energize a minimum of 100KW of PRZR Heaters in accordance with ER-PRZR.1. This JPM was on the N12-1R NRC Exam (One of Previous two NRC Exams).

JPM J This is a Bank JPM. The operator will be told that a fire in the Cable Tunnel is on-going, forcing the crew to implement ER-FIRE.2, Alternate Shutdown For Cable Tunnel Fire. The operator will be directed to start and control the A Charging Pump in accordance with procedure ER-FIRE.2, Attachment 4, Step 8.0, until charging flow is verified to the RCS. The operator will be expected to start, control and initiate charging flow locally from the A Charging Pump per Attachment 4 of ER-FIRE.2.

Facility:	**Ginna**		Scenario No.:	**1**	Op Test No.: **N17-1**
Examiners:			Operators:		(SRO)
					(RO)
					(BOP)

Initial Conditions:	The plant is at 100% power (EOL). The area has experienced steady light rain for the past 4 hours, with light wind from the South at 5-10 mph, and this is expected to continue throughout the shift. Per the daily work schedule, CROI-7, Swapping Service Water Pumps, is to be performed this shift, swapping the C for the D Service Water pumps.
Turnover:	The following equipment is Out-Of-Service: The D SAFW Pump is OOS for breaker maintenance, and the Condensate Booster Pump A is OOS for thrust bearing replacement.

Event No.	Malf. No.	Event Type*	Event Description
1	1	C-BOP C(TS)-SRO	Swap Service Water Pumps/D Service Water Pump Trip
2	2	C-RO C(TS)-SRO	Leak on the CCW System/B CCW Pump Trips
3	3	I-BOP I-RO I(TS)-SRO	PZR Level Channel 427 fails LOW
4	4	R-RO N-BOP N-SRO	Turbine Control Valve CV-L4 Drifts Closed/Downpower
5	5	M-RO M-BOP M-SRO	Steamline Break in Intermediate Building/Delayed closure of MSIVs
6	6	C-RO C-SRO	Automatic Rx Trip fails
7	5	C-RO C-SRO	MDAFW and TDAFW Pumps fail to start
8	NA	C-BOP C-SRO	D SAFW Pump is restored

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

Ginna 2017 NRC Scenario #1

The plant is at 100% power (EOL). The area has experienced steady light rain for the past 4 hours, with light wind from the South at 5-10 mph, and this is expected to continue throughout the shift. Per the daily work schedule, CROI-7, Swapping Service Water Pumps, is to be performed this shift, swapping the D for the C Service Water Pumps.

The following equipment is Out-Of-Service: The D SAFW Pump is OOS for breaker maintenance, and the Condensate Booster Pump A is OOS for thrust bearing replacement.

Shortly after taking the watch, the operator will swap the C and the D Service Water Pumps in accordance with P-17, "Operations Control Room Operating Instructions." Because of restrictions on running four Service Water Pumps simultaneously, the operator will likely stop the C Service Water Pump prior to starting the D Service Water Pump. When the operator stops the C Service Water Pump, its Discharge Check Valve will stick partially open, resulting in lower system pressure, even after the D Service Water Pump is started. The operator may restart the pump based on these indications, or enter AP-SW.1, "Service Water Leak." When the C SW Pump is re-started the D Service Water Pump will trip. The operator will respond in accordance with AR-J-9, "SAFEGUARDS BREAKER TRIP," and AP-SW.2, "Loss of Service Water." The operator will address Technical Specification LCO 3.7.8, "Service Water (SW) System."

Following this, a CCW System Supply Relief Valve will lift and fail to reseat causing a 30 gpm CCW System leak. Approximately two minutes afterwards the B CCW Pump will trip, and the A CCW Pump will automatically start. The operator will respond in accordance with AR-A-17, "MOTOR OFF RCP CCWP," and enter AP-CCW.2, "Loss of CCW During Power Operation." The operator will address Technical Specification LCO 3.7.7, "Component Cooling Water System."

Subsequently, Pressurizer Level Channel 427 will fail LOW, resulting in letdown isolation and de-energizing the pressurizer heaters. The crew will respond per AR-F-11, "PZR LOW LEVEL 13%," and ER-INST.1, "Reactor Protection Bistable Defeat After Instrumentation Loop Failure." They will defeat the failed channel, reset PZR heaters, reduce charging to a single charging pump, and re-establish letdown per S-3.2.E, "Placing In or Removing From Service Normal Letdown/Excess Letdown." The crew will start a second charging pump and slowly restore PZR level to program (56%). The operator will address Technical Specification LCO 3.3.1, "Reactor Trip System (RTS) Instrumentation" and LCO 3.4.9, "Pressurizer."

Then, turbine control valve CVL-4 will drift closed. The crew will respond per AP-TURB.2, "Turbine Load Rejection," begin a load reduction to less than 50% power using AP-TURB.5, "Rapid Load Reduction."

After this, a large steam break occurs downstream of the MSIVs in the Intermediate Building, and both MSIVs will fail to automatically or manually close. Simultaneously, the reactor will fail to trip automatically. The operator will need to manually trip the Reactor. Additionally, all AFW Pumps fail to start due to the high-energy break. The crew will implement E-0, "Reactor Trip or Safety Injection."

Both MSIVs will automatically close after 90 seconds. The crew will transition to FR-H.1, "Response to Loss of Secondary Heat Sink," at Step 9 of E-0; and will be required to initiate RCS Bleed and Feed. Upon successful implementation of RCS Bleed and Feed, the D SAFW Pump will become available, and the crew will restore a feed source to the B S/G in accordance with ATT-22.0, "Attachment Restoring Feed Flow."

The scenario will terminate at Step 27.b of FR-H.1, after feed flow has been restored from the D SAFW Pump.

Critical Tasks:

Manually trip the reactor from the control room before transition to FR-S.1 (EOP Based)

Safety Significance: Failure to manually trip the reactor causes a challenge to the subcriticality CSF beyond that irreparably introduced by the postulated conditions. Additionally, it constitutes an "incorrect performance that necessitates the crew taking action which complicates the event mitigation strategy that demonstrates the inability by the crew to recognize a failure of the automatic actuation of the RPS.

Establish RCS bleed and feed so that the RCS depressurizes sufficiently such that the SI Pumps inject flow (EOP-Based)

Safety Significance: Failure to initiate RCS bleed and feed before the RCS saturates at a pressure above the shutoff head of the high-head ECCS pumps results in significant and sustained core uncovery. If RCS bleed is initiated so that the RCS is depressurized below the shutoff head of the high-head ECCS pumps, then core uncovery is prevented or minimized.

Facility:	**Ginna**	Scenario No.: **3**	Op Test No.: **N17-1**
Examiners:		Operators:	(SRO)
			(RO)
			(BOP)

Initial Conditions:	The plant is at 70% power (BOL). The plant was taken to 50% due to a failure of the B MFW Pump. Corrective Maintenance was performed and plant power raised to 70% four days ago. It is intended to observe the B MFW operation for two more days at this power level and then raise power to 100%. The area has experienced steady light rain for the past 4 hours, with light wind from the South at 5-10 mph, and this is expected to continue throughout the shift. It is expected to perform post-maintenance testing on the B RHR Pump on this shift.
Turnover:	The following equipment is Out-Of-Service: The A Control Rod Shroud Fan is OOS for breaker maintenance, and the Condensate Booster Pump A is OOS for thrust bearing replacement.

Event No.	Malf. No.	Event Type*	Event Description
1	1	C-RO C(TS)-SRO	Failure of B RHR Pump During Surveillance
2	2	C-BOP C-SRO	A ARV Fails OPEN (3411)
3	3	I-RO I(TS)-SRO	Master Pressure Controller (431K) Fails HIGH
4	NA	R-RO N-BOP N-SRO	Unscheduled Trip of Transmission Circuits/Downpower
5	4	C-BOP C-SRO	B FRV fails AS-IS (Manual Control Available)
6	5	M-RO M-BOP M-SRO	Ejected Control Rod
7	6	C-BOP C-SRO	Failure of Turbine to Trip on Rx Trip
8	7	C-RO C-SRO	Failure of A and B SI Pumps to Auto Start
9	8	NA	A RHR Pumps trips

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

Ginna 2017 NRC Scenario #3

The plant is at 70% power (BOL). The plant was taken to 50% due to a failure of the B MFW Pump. Corrective Maintenance was performed and plant power raised to 70% four days ago. It is intended to observe the B MFW operation for two more days at this power level and then raise power to 100%. The area has experienced steady light rain for the past 4 hours, with light wind from the South at 5-10 mph, and this is expected to continue throughout the shift. It is expected to perform post-maintenance testing on the B RHR Pump on this shift.

The following equipment is Out-Of-Service: The A Control Rod Shroud Fan is OOS for breaker maintenance, and the Condensate Booster Pump A is OOS for thrust bearing replacement.

Shortly after taking the watch, the operator will start the B RHR Pump per STP-O-2.2.-COMP-B, "Residual Heat Removal Pump B Comprehensive Test," and then stop the pump due to a pump seal water cooler failure using the guidance of A-503.1, "Emergency and Abnormal Operating Procedures User's Guide." The operator will respond using AP-CCW.2, "Loss of CCW During Power Operation." The operator will address Technical Specification LCO 3.5.2, "ECCS - MODES 1, 2, and 3."

Following this, the controller for the A SG ARV will fail such that the valve will travel to the full OPEN position. The operator will respond using A-503.1, "Emergency and Abnormal Operating Procedures Users Guide," and/or AP-FW.2, "Secondary Coolant Leak," and take manual control of the ARV-3411, and close the valve.

Subsequently, the Master Pressure Controller (431K) will fail such that the output in Automatic goes to 100%, causing both Pressurizer Spray Valves to OPEN, and RCS Pressure to LOWER. The operator will respond using AR-F-10, "PRESSURIZER LO PRESS 2205 PSI," and enter AP-PRZR.1, "Abnormal Pressurizer Pressure." The operator will address Technical Specification LCO 3.4.1, "RCS Pressure, Temperature, and Flow Departure from Nucleate Boiling (DNB) Limits," and Technical Requirements Manual TR-3.4.3, "Anticipated Transients Without Scram (ATWS) Mitigation."

Then, the off-site transmission circuit 908 will de-energize, and the RG&E Energy Control Center (ECC) will request that Ginna verbally certify that the plant is capable of ramping down to 360 MWe net generation in 14 minutes upon Subsequent notification from ECC. The operator will respond in accordance with AR-J-28, "STATION 13A TROUBLE," enter O-6.9, "Operating Limits for Ginna Station Transmission," and prepare for plant shutdown. After this, the off-site transmission circuit 913 will also de-energize and the ECC will call requesting that the previously agreed to downpower be executed. The operating crew will enter AP-TURB.5, "Rapid Load Reduction," and lower plant power to 340 MWe.

During the load reduction, a failure of the B FRV to control in AUTO will occur. The operator will respond per AR-G-5, "S/G/ B LEVEL DEVIATION ±7%," or upon observing an abnormally high level in the B Steam Generator and control the B FRV manually.

After this, Shutdown Bank Control Rod K-9 will be ejected from the core causing a LOCA, and an automatic Rx Trip/SI signal will occur. On the trip the Main Turbine will fail to trip, and the operator will need to manually trip the Turbine. Additionally, the A and the B SI Pumps will fail to start automatically. The operator will be required to manually start both SI Pumps. The operator will enter E-0, "Reactor Trip or Safety Injection," and transition to E-1, "Loss of Reactor or Secondary Coolant."

Shortly after transition to E-1 the A RHR Pump will trip. The operator will transition to ECA-1.1, "Loss of Emergency Coolant Recirculation," due to a loss of both RHR Pumps. The operator will take actions to minimize the inventory loss from the RWST.

The scenario will terminate at Step 10.a RNO of ECA-1.1, after the crew has stopped one SI Pump.

Critical Tasks:

Trip all RCPs within 5 minutes of reaching trip criteria (EOP-Based)

Safety Significance: Failure to trip all RCPs when required can lead to core uncovery and to fuel temperatures in excess of 2200°F. Analyses have shown that if the RCPs are tripped within 5 minutes of the trip criteria being met, PCT will remain below 2200°F, and if this action is delayed beyond 5 minutes, this PCT will be exceeded. It is a management expectation that the RCPs be tripped as quickly as possible, but within 5 minutes when the trip criteria is met. Failure to take this action represents mis-operation by the operator which leads to degradation of the fuel cladding fission product barrier, and a violation of a license condition.

Direct that actions be taken to prepare to establish, or establish Makeup to RWST; and minimize RWST outflow prior to the completion of Step 10.a of ECA-1.1 (EOP-Based)

Safety Significance: Under the postulated plant conditions, failure to establish makeup flow to the RWST and/or to minimize RWST outflow leads to (or accelerates) depletion of RWST inventory to the point at which ECCS pumps taking suction on the RWST must be stopped. Loss of pumped injection (coincident with loss of emergency cooling recirculation) will lead to a severe or an extreme challenge to the core cooling CSF. Failure to perform the critical task causes these challenges to occur needlessly or, at best, prematurely (that is, before they would occur if the critical task is performed). Thus, failure to perform the critical task under the postulated plant conditions leads to "a significant reduction of safety margin beyond that irreparably introduced by the scenario." It also represents a demonstrated inability by the crew to "take one or more actions that would prevent a challenge to plant safety."

Facility:	**Ginna**	Scenario No.: **5**	Op Test No.: **N17-1**
Examiners:		Operators:	(SRO)
			(RO)
			(BOP)

Initial Conditions:	The plant is at 48% power (MOL). The plant was taken to 50% due to a failure of the B MFW Pump. Station Management has decided to shutdown the plant and repair the pump, and conduct other maintenance activities. The area has experienced steady light rain for the past 4 hours, with light wind from the South at 5-10 mph, and this is expected to continue throughout the shift. The crew is expected to lower power and proceed to Mode 3 on this shift.
Turnover:	The following equipment is Out-Of-Service: The B MFW is OOS for bearing replacement, and the Condensate Booster Pump A is OOS for thrust bearing replacement.

Event No.	Malf. No.	Event Type*	Event Description
1	1	C-RO C-BOP C(TS)-SRO	Loss of B Instrument Bus
2	NA	R-RO N-BOP N-SRO	Load Reduction
3	2	C-RO C(TS)-SRO	PORV Leak/Block Valve Failure
4	3	C-BOP C-SRO	Downpower/Failure of Turbine Control/EHC
5	4	M-RO M-BOP M-SRO	Inadvertent Main Steam Line Isolation Signal
6	5	C-RO C-BOP C-SRO	Failure of the Reactor to trip from the Control Room/ATWS
7	6	C-BOP C-SRO	One S/G Safety Valve on each S/G Lifts and sticks partially OPEN

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

Ginna 2017 NRC Scenario #5

The plant is at 48% power (MOL). The plant was taken to 50% due to a failure of the B MFW Pump. Station Management has decided to shutdown the plant and repair the pump, and conduct other maintenance activities. The area has experienced steady light rain for the past 4 hours, with light wind from the South at 5-10 mph, and this is expected to continue throughout the shift. The crew is expected to lower power and proceed to Mode 3 on this shift.

The following equipment is Out-Of-Service: The B MFW is OOS for bearing replacement, and the Condensate Booster Pump A is OOS for thrust bearing replacement.

Shortly after taking the watch, the operator will attempt to lower power in accordance with O-5.1, "Load Reduction," however, a loss of the B Instrument Bus will occur prior to the start of the load reduction. The operator will respond in accordance with AR-E-14, "LOSS B INSTR. BUS." Power will be restored to the bus per guidance in ER-INST.3, "Instrument Bus Power Restoration," which will include the isolation and re-establishment of Normal Letdown in accordance with S-3.2E, "Placing In or Removing From Service Normal Letdown/Excess Letdown." The operator will address AR-K-32, "CV AIR DRYER LOW PRESS SG B/D TANK HIGH LEVEL," while restoring from the transient. The operator will address Technical Specification LCO 3.8.7, "AC Instrument Bus Sources Modes 1-4," and LCO 3.8.9, "Distribution Systems – Modes 1, 2, 3 and 4."

Following this, the operator will lower power in accordance with O-5.1, "Load Reduction." The operator will address S-3.1, "Boron Concentration Control," to start the load reduction.

Subsequently, Pressurizer PORV-431C will fail partially open. The operator will respond in accordance with AR-F-19, "PRZR PORV OUTLET HI TEMP 145°F," and enter AP-PRZR.1, "Abnormal Pressurizer Pressure." When the operator attempts to isolate the PORV, the Block Valve will fail to shut fully resulting in a 2-5 gpm leak into the PRT. The crew may implement AP-RCS.1, "Reactor Coolant Leak," and prepare to make a Containment entry. Ultimately, the crew will be directed to take the unit off-line. The operator will address Technical Specification LCO 3.4.11, "Pressurizer Power Operated Relief Valves," LCO 3.4.13, "RCS Operational Leakage," LCO 3.4.1 "RCS Pressure, Temperature, and Flow Departure from Nucleate Boiling (DNB) Limits," as well as Technical Requirements Manual TR 3.4.3, "Anticipated Transients Without Scram (ATWS) Mitigation."

Then, the operator will take the unit off line in accordance with AP-TURB.5, "Rapid Load Reduction." The Main Turbine will fail in automatic control. The operator will diagnose the failure and use manual control of the turbine to conduct the downpower.

After this, an inadvertent Main Steam Line Isolation Signal will occur and both MSIVs will close. The reactor will fail to automatically trip and the operator will attempt to trip the reactor manually. The crew will enter E-0, "Reactor Trip or Safety Injection."

The reactor will fail to trip manually from the control room, and the crew will enter FR-S.1, "Response to Reactor Restart/ATWS." On the trip one S/G Safety Valve on each S/G lifted and stuck partially OPEN.

The crew will successfully de-energize the Rod Drive MG set(s) causing to control rods to drop into the core. Upon completion of FR-S.1, the crew will transition back to E-0, and then to E-1, "Loss of Reactor or Secondary Coolant," based on the failed Pressurizer PORV and Block Valve. Shortly after entry into E-1, the crew will transition to E-2, "Faulted Steam Generator Isolation." While implementing E-2, the crew will recognize that both S/Gs are faulted and transition to ECA-2.1,

"Uncontrolled Depressurization of Both Steam Generators." The crew may take a pre-emptive action of throttling AFW flow to both S/Gs per A-503.1, "Emergency and Abnormal Operating Procedures Users Guide."

The scenario will terminate at Step 7 of ECA-2.1, after the crew has stopped the RHR Pumps.

Critical Tasks:

Upon diagnosing an ATWS, manually insert the control rods within 1 minute, and continue insertion until the reactor is tripped or the rods are on the bottom (EOP-Based)

Safety Significance: failure to insert negative reactivity, under the postulated plant conditions, results in an unnecessary situation in which the reactor power remains higher than it otherwise would if the action is taken. Performance of the critical task would move the reactor power lower to prevent a subsequent an unnecessary challenge to reactor core operational limits. A failure to insert negative reactivity constitutes a mis-operation or incorrect crew performance which leads to incorrect reactivity control.

Control the AFW flowrate to 50 gpm per SG in order to minimize the RCS Cooldown rate before an extreme challenge (Red Path) develops to the integrity CSF (EOP-Based)

Safety Significance: Failure to control the AFW flow rate to the SGs leads to an unnecessary and avoidable extreme challenge to the integrity CSF. Also, failure to perform the Critical Task increases challenges to the SUBCRITICALITY Critical Safety Function which otherwise would not occur.

Facility:	**Ginna**		Scenario No.:	**6**	Op Test No.: **N17-1**
Examiners:			Operators:		(SRO)
					(RO)
					(BOP)

Initial Conditions:	The plant is at 0.5% power (BOL). The area has experienced steady light rain for the past 4 hours, with light wind from the South at 5-10 mph, and this is expected to continue throughout the shift. The crew will raise and stabilize plant power between 2-3%; until maintenance on the A SI Pump is complete.
Turnover:	The following equipment is Out-Of-Service: The A SI Pump is OOS for breaker swap and is expected to be back in 90 minutes, and the Condensate Booster Pump A is OOS for thrust bearing replacement.

Event No.	Malf. No.	Event Type*	Event Description
1	NA	R-RO N-BOP N-SRO	Raise power and Start second AFW Pump
2	1	C-BOP C(TS)-SRO	Loss of Compensating Voltage to Intermediate Range N35
3	2	C-RO C(TS)-SRO	480VAC Ground/A CCW Pump trips w/B CCW Pump failure to start in AUTO
4	3	C-RO C-SRO	B RCP Thermal Barrier leak
5	4	C-BOP C(TS)-SRO	Fault on 480V Bus 17/SW Pump C fails to start
6	5	M-RO M-BOP M-SRO	PRZR Steam Space Break
7	6	C-RO C-SRO	CI fails to automatically/manually actuate
8	7	C-RO C-BOP C-SRO	Loss of Off-site Power after SI is Reset

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

Ginna 2017 NRC Scenario #6

The plant is at 0.5% power (BOL). The area has experienced steady light rain for the past 4 hours, with light wind from the South at 5-10 mph, and this is expected to continue throughout the shift. The crew will raise and stabilize plant power between 2-3%; until maintenance on the A SI Pump is complete.

The following equipment is Out-Of-Service: The A SI Pump is OOS for breaker swap and is expected to be back in 90 minutes, and the Condensate Booster Pump A is OOS for thrust bearing replacement.

Shortly after taking the watch, the crew will start the 2nd AFW Pump and raise and stabilize power at 2-3% per Section 6.5 of O-1.2, "Plant Startup From Hot Shutdown To Full Load."

Subsequently, the compensating voltage power supply for the Intermediate Range Nuclear Instrument N35 will fail Low. The operator will respond in accordance with AR-E-9, "IR N-35 LOSS OF COMPENSATING VOLTAGE," and enter ER-NIS.2, "IR MALFUNTION." The operator will address Technical Specification LCO 3.3.1, "Reactor Trip Instrumentation."

Then, a 480VAC ground will occur on Bus 14 and the A CCW Pump will trip, and the B CCW Pump will fail to automatically start. The operator will either start the B CCW pump manually per A-503.1, "Emergency and Abnormal Operating Procedures Users Guide," or respond in accordance with AR-A-22, "CCW PUMP DISCHARGE LO PRESS 60 PSI," and enter AP-CCW.2, "Loss of CCW During Power Operation." The operator will evaluate Technical Specification LCO 3.7.7, "Component Cooling Water System."

After this, a thermal barrier leak will occur on the B RCP. The crew may enter AP-RCP.1, "RCP Seal Malfunction," but will ultimately respond per AP-CCW.1, "Leakage Into the Component Cooling Loop," and isolate the leak.

Next, a fault on 480V Bus 17 will occur, resulting in Bus 17 de-energizing. The operator will enter AP-ELEC.17/18, "Loss of Safeguards Bus 17/18." The C Service Water Pump will fail to start when manual start is attempted, leaving only the A SW Pump running. The operator may leave the B EDG running or trip it within AP-ELEC.17/18, but in either case align Alternate Cooling to the EDG. The operator will enter AP-SW.2, "Loss of Service Water," and take actions to isolate non-essential SW loads. The operator will address Technical Specification LCO 3.8.1, "AC Sources – Modes 1, 2, 3, and 4," and LCO 3.8.9, "Distribution Systems – Modes 1, 2, 3, and 4."

Afterwards, a Pressurizer vapor space Small Break LOCA occurs over ten minutes. The operator will enter AP-RCS.1, "Reactor Coolant Leak," however, ultimately the reactor will be tripped, Safety Injection will be actuated, and the operator will enter E-0, "Reactor Trip or Safety Injection." On the plant trip, Containment Isolation will fail to automatically and manually actuate, and the operator will need to manually close the Containment Isolation Valves. Additionally, when the SI occurs, instrument air to containment will be isolated and the B RCP Thermal Barrier Return Isolation Valve will fail open. The CCW leak will need to be re-isolated.

The operator will transition from E-0 to E-1, "Loss of Reactor or Secondary Coolant." At Step 7 of E-1, and after SI is reset, a Loss of Off-Site Power will occur and all Safeguards Equipment will need to be re-started.

The scenario will terminate at Step 9 (or beyond) of E-1 after all ECCS equipment is re-started and Instrument Air has been restored to the Containment.

Critical Tasks:

Trip all RCPs within 2 minutes of loss of CCW to the RCPs or if RCP motor bearing temperature exceeds 200°F; or within 5 minutes of reaching Small Break LOCA trip criteria, whichever is reached first (EOP-Based)

Safety Significance: During an undervoltage condition on an ESF Bus coupled with an SI, the CCW Pump(s) will trip causing a loss of CCW flow to the RCPs. A Caution is provided in AP-CCW.2 and 3 which states "If CCW flow to a RCP is interrupted for greater than 2 minutes or if either RCP motor bearing temperature exceeds 200°F, then trip the affected RCP." This caution applies at all times, and is necessary to protect the long-term operations of the RCPs. It is a management expectation that the RCPs be tripped within 2 minutes of a loss of CCW to pump motor bearings. Additionally, failure to trip all RCPs when required during a Small Break LOCA can lead to core uncovery and to fuel temperatures in excess of 2200°F. Analyses have shown that if the RCPs are tripped within 5 minutes of the trip criteria being met, PCT will remain below 2200°F, and if this action is delayed beyond 5 minutes, this PCT will be exceeded. It is a management expectation that the RCPs be tripped as quickly as possible, but within 5 minutes when the trip criteria are met. Failure to take this action represents mis-operation by the operator which leads to degradation of the fuel cladding fission produce barrier, and a violation of a license condition.

Close Containment Isolation Valves, or their Alternate Valves using ATT-3.0, before indicating to the US that ATT-27.0 is complete (EOP-Based)

Safety Significance: Failure to close at least one Containment Isolation Valve on each critical penetration under the postulated conditions when it is possible to do so, constitutes mis-operation leading to degradation of the Containment Barrier. Failure to take this action leads to an unnecessary release of fission products to the auxiliary building, increasing the potential for release to the environment, and reducing accessibility to vital equipment within the Auxiliary Building. Higher radiation levels within the Auxiliary Building will result in a degradation of ALARA principles.

Establish High-Head Injection with at least two SI Pumps after SI has been Reset and following a Loss of Off-Site Power (EOP-Based)

Safety Significance: Failure to manually start at least two 50% capacity SI pumps under the postulated conditions constitutes mis-operation or incorrect crew performance in which the crew does not prevent degraded emergency core cooling system (ECCS) capacity." In this case, at least two SI pumps can be manually started from the control room. Therefore, failure to manually start both SI pumps, which are 50% capacity pumps, also represents a failure by the crew to "demonstrate the ability to effectively direct or manipulate engineered safety feature (ESF) controls that would prevent a significant reduction of safety margin beyond that irreparably introduced by the scenario, and recognize a failure or an incorrect automatic actuation of an ESF system or component. Additionally, under the postulated plant conditions, failure to manually start the SI pumps (when it is possible to do so) is a "violation of the facility license condition." Performance of the critical task would return the plant to a condition for which analysis shows acceptable results.