Facility: Salem Units 1 & 2 **Date of Examination:** 1/10/00

Exam Level (circle one): RO/SRO(I)/SRO(U) **Operating Test No.:** ~~Day 1/3~~ Day 1 ill 11/2

B.1: Control Room Systems

	System	JPM Description	Type Code*	Safety Function
1	CVCS (004)	Perform a dilution of the RCS (Day 1)	M,S	1
2	ECCS (006)	Shift to Cold Leg Recirculation with 2A 4KV Vital Bus unavailable (Day 1)	A,E,N,S	2
3	PZR (010)	Control RCS pressure following a reactor trip (Day 3)	A,E,D,S	3
4	AFW (061)	Establish minimum required AFW flow following a reactor trip (Day 3)	A,D,E,S	4(Sec)
5	CNMT CLG (022)	Service Water leak in a Containment Fan Coil Unit during EOP implementation (Day 3)	A,E,N,S	5
6	AC ELEC (062)	2C 4KV Vital Bus transfer fails (Day 1)	A,E,N,S	6
7	CCW (008)	Shift operating Component Cooling Water Pumps (Day 1)	D,S	8

B.2: Facility Walk-Through

8	AFW (061)	Local control of a MDAFW Pump and the associated valves to feed SG's	E,D,R	4(Sec)
9	EDG (064)	Local start ~~of~~ an Emergency Diesel Generator and synchronize ~~during EOP implementation~~ ill	D,R	6
10	DC ELEC/RCS (APE068)	Align the ASDS Inverter to DC and energize RCS loop 22 and 23 WR Th and Tc	E,N	8

*** Type Codes:** (**D**)irect from bank, (**M**)odified from bank, (**N**)ew, (**A**)lternate path, (**C**)ontrol Room, (**S**)imulator, (**L**)ow-Power, (**R**)CA, (**E**)OP/AB

Facility: Salem Units 1 & 2
Examination Level (circle one): SRO(I)

Date of Examination: 1/10/00 ~~12/27/99~~
Operating Test Number: ~~2~~ Day 1

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Night and Temporary Standing Orders	2.1.15 3.0 - Ability to manage short term information such as night and standing orders QUESTION: Determine time limits and shift turnover requirements for Night Orders and Temporary Standing Orders
	Key Control	2.1.1 3.8 - Knowledge of conduct of operations requirements QUESTION: Identify key control requirements and practices
	Shutdown Margin Calculation	2.1.25 3.1 - Ability to obtain and interpret station reference materials such as graphs, monographs, and tables which contain performance data JPM: Verify a shutdown margin calculation
A.2	Tech Spec Log	2.2.23 3.8 - Ability to track Limiting Conditions for Operations. JPM: Evaluate a situation and complete the TSAS log
A.3	Dose Limit Extensions	2.3.4 3.1 - Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized QUESTION: Determine authorization requirements for extending facility dose limit
	Mode 1 Containment Entry	2.3.4 3.1 - Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized QUESTION: Determine requirements for containment entry during power operation
A.4	Emergency Classification JPM	2.4.41 4.1 - Knowledge of the emergency action level thresholds and classifications JPM: Provided with a set of conditions, classify an event

Facility: Salem Units 1 & 2 **Date of Examination:** 1/10/00

Exam Level (circle one): RO/SRO(I)/SRO(U) **Operating Test No.:** ~~Day 2/3~~ Day 2 12/27/99

B.1: Control Room Systems

	System	JPM Description	Type Code*	Safety Function
1	CVCS (004)	Perform calculations and setup the VCT makeup controller for AUTO (Day 2)	M,S	1
2	ECCS (006)	Shift ECCS to Cold Leg Recirculation with 2B 4KV Vital Bus unavailable (Day 2)	A,E,N,S	2
3	PZR (010)	Control RCS pressure following a reactor trip (Day 3)	A,E,D,S	3
4	AFW (061)	Establish minimum required AFW flow following a reactor trip (Day 3)	A,D,E,S	4(Sec)
5	CNMT CLG (022)	Service Water leak in a Containment Fan Coil Unit during EOP implementation (Day 3)	A,E,N,S	5
6	AC ELEC (062)	Synchronize the Main Generator to the grid (Day 2)	A,L,M,S	6
7	CCW (008)	Split the CCW system headers (Day 2)	E,M,S	8

B.2 Facility Walk-Through

8	Cont. Rm Evac. (068)	Defeat AUTO SI following Control Rm Evacuation	D,E	8
9	AFW (061)	Defeat the AFW Pump low suction pressure trip	E,N,R	4(Sec)
10	AC ELEC (062)	Transfer PZR B/U Heaters to 2A Vital Bus	D	6

* **Type Codes:** (**D**)irect from bank, (**M**)odified from bank, (**N**)ew, (**A**)lternate path, (**C**)ontrol Room, (**S**)imulator, (**L**)ow-Power, (**R**)CA, (**E**)OP/AB

Facility: Salem Units 1 & 2 **Date of Examination:** 1/10/00 12/29/99
Examination Level (circle one): RO **Operating Test Number:** 1 Day 2

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	ECP Calculation	2.1.25 3.1 - Ability to obtain and interpret station reference materials such as graphs, monographs, and tables which contain performance data JPM: Provided with ECP data, determine the required RCS boron concentration
	Shift Turnover	2.1.3 3.0 - Knowledge of shift turnover practices. JPM: As oncoming RO, complete a shift turnover attachment
A.2	Tagging	2.2.13 3.6 - Knowledge of tagging and clearance procedures JPM: Evaluate a tagging request and determine the order of operations
A.3	Release Rate Calculation	2.3.10 2.9 - Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure JPM: Provided with a set of conditions, perform a total gaseous release rate calculation
A.4	Reporting Time Limit	2.4.39 3.3 - Knowledge of RO's responsibilities in emergency plan implementation QUESTION: Given a set of conditions, determine if reporting time requirements have been met
	NRC Communications	2.4.39 3.3 - Knowledge of RO's responsibilities in Emergency Plan implementation QUESTION: Specify the internal requirements for maintaining an open telephone line with NRC

Facility: Salem Units 1 & 2 **Date of Examination**: 1/10/00

Exam Level (circle one): RO/SRO(I)/**SRO(U)** **Operating Test No.**: Day 2

B.1: Control Room Systems

	System	JPM Description	Type Code*	Safety Function
1	PZR (010)	Reduce RCS pressure during a natural circulation cooldown	A,E,N,S	3
2	AC ELEC (062)	Synchronize the Main Generator to the grid	A,L,M,S	6
3	ECCS (006)	Shift ECCS to Cold Leg Recirculation with 2B 4KV Vital Bus unavailable (Day 2)	A,E,N,S	2

B.2: Facility Walk-Through

4	Cont. Rm. Evac. (068)	Defeat AUTO SI following Control Rm Evacuation	D,E	8
5	AFW (061)	Defeat the AFW Pump low suction pressure trip	E,N,R	4(Sec)

* **Type Codes:** (**D**)irect from bank, (**M**)odified from bank, (**N**)ew, (**A**)lternate path, (**C**)ontrol Room, (**S**)imulator, (**L**)ow-Power, (**R**)CA, (**E**)OP/AB

Facility: Salem Units 1 & 2 **Date of Examination:** 1/10/00 12/27/99
Examination Level (circle one): SRO(U)/SRO(I) **Operating Test Number:** ~~1~~ Day 2

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Reactor Startup	2.1.25 3.1 - Ability to obtain and interpret station reference materials such as graphs, monographs, and tables which contain performance data. JPM: Evaluate criticality data by comparing a 1/M Plot to the ECP
	Shift Turnover	2.1.3 3.4 - Knowledge of shift turnover practices JPM: As oncoming Control Room Supervisor, complete a shift turnover attachment
A.2	Temporary Modifications	2.2.11 3.4 - Knowledge of the process for controlling temporary changes QUESTION: Evaluate evolutions and identify a temporary modification
	Post-maintenance Retest	2.2.21 3.5 - Knowledge of pre- and post-maintenance operability requirements QUESTION: Specify post-maintenance retest requirements
A.3	Actions for High Dose Rates	2.3.1 3.0 - Knowledge of 10CFR20 and related facility radiation control requirements. QUESTION: Given a set of conditions, specify actions to be taken when a high dose rate is encountered
	Very High Radiation Area Entry	2.3.1 3.0 - Knowledge of 10CFR20 and related facility radiation control requirements. QUESTION: Determine the authorization/notification requirements for entry into a Very High Radiation Area entry.
A.4	Release Rate Calc/Classificastion	2.4.41 4.1 - Knowledge of the Emergency Action Level Thresholds and Classifications. JPM: Provided with a set of conditions, perform a total gaseous release rate calculation and classify the event

Facility: Salem Units 1 & 2 **Date of Examination:** 1/10/00

Exam Level (circle one): RO/**SRO(I)**/SRO(U) **Operating Test No.:** ~~Day 1/3~~ Day 3 12/27/99

B.1: Control Room Systems

	System	JPM Description	Type Code*	Safety Function
1	CVCS (004)	Perform a dilution of the RCS (Day 1)	M,S	1
2	ECCS (006)	Shift to Cold Leg Recirculation with 2A 4KV Vital Bus unavailable (Day 1)	A,E,N,S	2
3	PZR (010)	Control RCS pressure following a reactor trip (Day 3)	A,E,D,S	3
4	AFW (061)	Establish minimum required AFW flow following a reactor trip (Day 3)	A,D,E,S	4(Sec)
5	CNMT CLG (022)	Service Water leak in a Containment Fan Coil Unit during EOP implementation (Day 3)	A,E,N,S	5
6	AC ELEC (062)	2C 4KV Vital Bus transfer fails (Day 1)	A,E,N,S	6
7	CCW (008)	Shift operating Component Cooling Water Pumps (Day 1)	D,S	8

B.2: Facility Walk-Through

8	AFW (061)	Local control of a MDAFW Pump and the associated valves to feed SG's	E,D,R	4(Sec)
9	EDG (064)	Local start of an Emergency Diesel Generator during EOP implementation	D,R	6
10	DC ELEC/RCS (APE068)	Align the ASDS Inverter to DC and energize RCS loop 22 and 23 WR Th and Tc	E,N	8

* **Type Codes:** (**D**)irect from bank, (**M**)odified from bank, (**N**)ew, (**A**)lternate path, (**C**)ontrol Room, (**S**)imulator, (**L**)ow-Power, (**R**)CA, (**E**)OP/AB

Facility: Salem Units 1 & 2 **Date of Examination**: 1/10/00

Exam Level (circle one): RO/SRO(I)/**SRO(U)** **Operating Test No.**: ~~Day 2~~ Day #3 11/27/99

B.1: Control Room Systems

	System	JPM Description	Type Code*	Safety Function
1	PZR (010)	Reduce RCS pressure during a natural circulation cooldown	A,E,N,S	3
2	AC ELEC (062)	Synchronize the Main Generator to the grid	A,L,M,S	6
3	ECCS (006)	Shift ECCS to Cold Leg Recirculation with 2B 4KV Vital Bus unavailable (Day 2)	A,E,N,S	2

B.2: Facility Walk-Through

4	Cont. Rm. Evac. (068)	Defeat AUTO SI following Control Rm Evacuation	D,E	8
5	AFW (061)	Defeat the AFW Pump low suction pressure trip	E,N,R	4(Sec)

* **Type Codes:** (**D**)irect from bank, (**M**)odified from bank, (**N**)ew, (**A**)lternate path, (**C**)ontrol Room, (**S**)imulator, (**L**)ow-Power, (**R**)CA, (**E**)OP/AB

Facility: Salem Units 1 & 2 **Date of Examination:** 1/10/00 11/4/99
Examination Level (circle one): SRO(U)/SRO(I) **Operating Test Number:** ~~1~~ Day 3

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Reactor Startup	2.1.25 3.1 - Ability to obtain and interpret station reference materials such as graphs, monographs, and tables which contain performance data. JPM: Evaluate criticality data by comparing a 1/M Plot to the ECP
	Shift Turnover	2.1.3 3.4 - Knowledge of shift turnover practices JPM: As oncoming Control Room Supervisor, complete a shift turnover attachment
A.2	Temporary Modifications	2.2.11 3.4 - Knowledge of the process for controlling temporary changes QUESTION: Evaluate evolutions and identify a temporary modification
	Post-maintenance Retest	2.2.21 3.5 - Knowledge of pre- and post-maintenance operability requirements QUESTION: Specify post-maintenance retest requirements
A.3	Actions for High Dose Rates	2.3.1 3.0 - Knowledge of 10CFR20 and related facility radiation control requirements. QUESTION: Given a set of conditions, specify actions to be taken when a high dose rate is encountered
	Very High Radiation Area Entry	2.3.1 3.0 - Knowledge of 10CFR20 and related facility radiation control requirements. QUESTION: Determine the authorization/notification requirements for entry into a Very High Radiation Area entry.
A.4	Release Rate Calc/Classificastion	2.4.41 4.1 - Knowledge of the Emergency Action Level Thresholds and Classifications. JPM: Provided with a set of conditions, perform a total gaseous release rate calculation and classify the event

Facility: Salem Units 1 & 2 **Date of Examination:** 1/10/00

Exam Level (circle one): **RO**/SRO(I)/SRO(U) **Operating Test No.:** ~~Day 2/3~~ Day 3 12/27/99

B.1: Control Room Systems

	System	JPM Description	Type Code*	Safety Function
1	CVCS (004)	Perform calculations and setup the VCT makeup controller for AUTO (Day 2)	M,S	1
2	ECCS (006)	Shift ECCS to Cold Leg Recirculation with 2B 4KV Vital Bus unavailable (Day 2)	A,E,N,S	2
3	PZR (010)	Control RCS pressure following a reactor trip (Day 3)	A,E,D,S	3
4	AFW (061)	Establish minimum required AFW flow following a reactor trip (Day 3)	A,D,E,S	4(Sec)
5	CNMT CLG (022)	Service Water leak in a Containment Fan Coil Unit during EOP implementation (Day 3)	A,E,N,S	5
6	AC ELEC (062)	Synchronize the Main Generator to the grid (Day 2)	A,L,M,S	6
7	CCW (008)	Split the CCW system headers (Day 2)	E,M,S	8

B.2 Facility Walk-Through

8	Cont. Rm Evac. (068)	Defeat AUTO SI following Control Rm Evacuation	D,E	8
9	AFW (061)	Defeat the AFW Pump low suction pressure trip	E,N,R	4(Sec)
10	AC ELEC (062)	Transfer PZR B/U Heaters to 2A Vital Bus	D	6

* **Type Codes:** (**D**)irect from bank, (**M**)odified from bank, (**N**)ew, (**A**)lternate path, (**C**)ontrol Room, (**S**)imulator, (**L**)ow-Power, (**R**)CA, (**E**)OP/AB

Facility: Salem Units 1 & 2 **Date of Examination:** 1/10/00 12/27/99
Examination Level (circle one): RO **Operating Test Number:** ~~1~~ Day 3

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	ECP Calculation	2.1.25 3.1 - Ability to obtain and interpret station reference materials such as graphs, monographs, and tables which contain performance data JPM: Provided with ECP data, determine the required RCS boron concentration
	Shift Turnover	2.1.3 3.0 - Knowledge of shift turnover practices. JPM: As oncoming RO, complete a shift turnover attachment
A.2	Tagging	2.2.13 3.6 - Knowledge of tagging and clearance procedures JPM: Evaluate a tagging request and determine the order of operations
A.3	Release Rate Calculation	2.3.10 2.9 - Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure JPM: Provided with a set of conditions, perform a total gaseous release rate calculation
A.4	Reporting Time Limit	2.4.39 3.3 - Knowledge of RO's responsibilities in emergency plan implementation QUESTION: Given a set of conditions, determine if reporting time requirements have been met
	NRC Communications	2.4.39 3.3 - Knowledge of RO's responsibilities in Emergency Plan implementation QUESTION: Specify the internal requirements for maintaining an open telephone line with NRC

Facility: Salem Units 1 & 2 **Date of Examination:** 1/10/00 12/27/99

Exam Level (circle one): RO/SRO(I)/SRO(U) **Operating Test No.:** ~~Day 2/3~~ Day 4

B.1: Control Room Systems

	System	JPM Description	Type Code*	Safety Function
1	CVCS (004)	Perform calculations and setup the VCT makeup controller for AUTO (Day 2)	M,S	1
2	ECCS (006)	Shift ECCS to Cold Leg Recirculation with 2B 4KV Vital Bus unavailable (Day 2)	A,E,N,S	2
3	PZR (010)	Control RCS pressure following a reactor trip ~~(Day 3)~~ Day 4	A,E,D,S	3
4	AFW (061)	Establish minimum required AFW flow following a reactor trip ~~(Day 3)~~ Day 4	A,D,E,S	4(Sec)
5	CNMT CLG (022)	Service Water leak in a Containment Fan Coil Unit during EOP implementation ~~(Day 3)~~ Day 4	A,E,N,S	5
6	AC ELEC (062)	Synchronize the Main Generator to the grid (Day 2)	A,L,M,S	6
7	CCW (008)	Split the CCW system headers (Day 2)	E,M,S	8

B.2 Facility Walk-Through

8	ESFAS (013)	Defeat AUTO SI following Control Rm Evacuation	D,E	2
9	AFW (061)	Defeat the AFW Pump low suction pressure trip	E,N,R	4(Sec)
10	AC ELEC (062)	Transfer PZR B/U Heaters to 2A Vital Bus	D	6

* **Type Codes:** (**D**)irect from bank, (**M**)odified from bank, (**N**)ew, (**A**)lternate path, (**C**)ontrol Room, (**S**)imulator, (**L**)ow-Power, (**R**)CA, (**E**)OP/AB

Facility: Salem Units 1 & 2 **Date of Examination:** 1/10/00 ver. 12/27/99

Exam Level (circle one): RO/**SRO(I)**/SRO(U) **Operating Test No.:** ~~Day 1/3~~ Day 4

B.1: Control Room Systems

	System	JPM Description	Type Code*	Safety Function
1	CVCS (004)	Perform a dilution of the RCS (Day 1)	M,S	1
2	ECCS (006)	Shift to Cold Leg Recirculation with 2A 4KV Vital Bus unavailable (Day 1)	A,E,N,S	2
3	PZR (010)	Control RCS pressure following a reactor trip ~~(Day 3)~~ Day 4	A,E,D,S	3
4	AFW (061)	Establish minimum required AFW flow following a reactor trip ~~(Day 3)~~ Day 4	A,D,E,S	4(Sec)
5	CNMT CLG (022)	Service Water leak in a Containment Fan Coil Unit during EOP implementation ~~(Day 3)~~ Day 4	A,E,N,S	5
6	AC ELEC (062)	2C 4KV Vital Bus transfer fails (Day 1)	A,E,N,S	6
7	CCW (008)	Shift operating Component Cooling Water Pumps (Day 1)	D,S	8

B.2: Facility Walk-Through

8	AFW (061)	Local control of a MDAFW Pump and the associated valves to feed SG's	E,D,R	4(Sec)
9	EDG (064)	Local start of an Emergency Diesel Generator during EOP implementation	D,R	6
10	DC ELEC/RCS (APE068)	Align the ASDS Inverter to DC and energize RCS loop 22 and 23 WR Th and Tc	E,N	8

*** Type Codes:** (**D**)irect from bank, (**M**)odified from bank, (**N**)ew, (**A**)lternate path, (**C**)ontrol Room, (**S**)imulator, (**L**)ow-Power, (**R**)CA, (**E**)OP/AB

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

STATION: Salem

SYSTEM: Emergency Operating Procedures

TASK: De-pressurize the RCS during a natural circulation cooldown: TRIP-4 (Alternate Path)

TASK NUMBER: 1150030501

JPM NUMBER:

APPLICABILITY:
EO [ ] **RO** [X] **SRO** [X]

K/A NUMBER:	EPE 009 EA1.3	
IMPORTANCE FACTOR:	3.5	3.8
	RO	**SRO**

EVALUATION SETTING/METHOD: Simulator

REFERENCES: EOP-TRIP-4,
Natural Circulation Cooldown

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 5 minutes

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

APPROVED:

J.K. Lloyd	**E.M. Gallagher**
PRINCIPAL TRAINING SUPERVISOR	**OPERATIONS MANAGER**

CAUTION: **No plant equipment shall be operated during the performance of a JPM without the following:**

1. **Permission from the OS Or Unit CRS;**
2. **Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).**
3. **Verification of the "as left" condition by a qualified individual.**

ACTUAL JPM COMPLETION TIME: _____

ACTUAL TIME CRITICAL COMPLETION TIME: _____

JPM PERFORMED BY: _____ **GRADE:** [ ] **SAT** [ ] **UNSAT**

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE: _____ **DATE:** _____

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: EOP's

TASK: De-pressurize the RCS during a natural circulation cooldown: TRIP-4 (Alternate Path)

TASK NUMBER: 1150030501

INITIAL CONDITIONS:

- Provide EOP-TRIP-4, marked up through Step 11
- Reset to IC - 2
- Initiate a Loss of Off-site Power and perform actions of TRIP-2
- Transition to TRIP-4 and complete the actions up through Step 11
- Override CV7 CLOSED

INITIATING CUE:

A Loss of Off-site Power has occurred from 100% power. The crew has completed the EOP's through Step 11, EOP-TRIP-4. Starting with Step 12, implement EOP-TRIP-4.

Successful Completion Criteria:

1. **All critical steps completed.**
2. **All sequential steps completed in order.**
3. **All time-critical steps completed within allotted time.**
4. **JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).**

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: EOP's

TASK: De-pressurize the RCS: TRIP-4 (Alternate Path)

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	1	OPEN 2CV2 AND 2CV277 (LETDOWN CONTROL VALVES) AND PLACE IN "AUTO"	Depresses the 2CV2 OPEN and 2CV277 OPEN buttons and verifies the buttons illuminate.		
	2	OPEN 2CV7 (LETDOWN CONTROL VALVE)	Depresses the 2CV7 OPEN button and observes valve remains closed ***NOTE: With 2CV7 CLOSED, the candidate should note that the Charging and Letdown steps will not be useful. The candidate can circle the step and go directly to "IS LETDOWN IN SERVICE?"***		
	3	ADJUST 2CV55 (CHARGING FLOW CONTROL VALVE) TO RAISE CHARGING FLOW TO AT LEAST 87 GPM	Adjusts 2CV55 OPEN/CLOSE buttons to obtain the desired flow.		

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: EOP's

TASK: De-pressurize the RCS: TRIP-4 (Alternate Path)

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	4	PERFORM THE FOLLOWING ACTIONS SIMULTANOUSLY: • OPEN ONLY ONE ORIFICE ISOLATION VALVE • ADJUST 2CV18 (LETDOWN PRESSURE CONTROL VALVE) TO MAINTAIN LETDOWN PRESSURE AT 300 PSIG	Depresses the OPEN button for Orifice Isolation Valve 2CV4 or 2CV5. Adjusts CV18OPEN as necessary to control letdown pressure.		
	5	PLACE THE FOLLOWING IN "AUTO": • 2CV18	Verifies or returns CV18 to AUTO		
	6	• 2CV55	Verifies CV55 in AUTO		
	7	• MASTER FLOW CONTROLLER	Verifies Master Flow Controller in AUTO		
	8	IS LETDOWN IN SERVICE?	Answers NO		
	9	CAUTION: PZR PORV CYCLING SHOULD BE MINIMIZED	Notes the Caution.		

OPERATOR TRAINING PROGRAM **NAME:** _____

JOB PERFORMANCE MEASURE **DATE:** _____

SYSTEM: EOP's

TASK: De-pressurize the RCS: TRIP-4 (Alternate Path)

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
*	10	USE ONLY ONE PZR PORV TO LOWER RCS PRESSURE TO 1865 PSIG	Depresses the MANUAL and OPEN PB for only one PORV (2PR1 or 2PR2).		
	11	WAIT UNTIL RCS PRESSURE LESS THAN 1865 PSIG	Monitors RCS Pressure		
*	12	CLOSE BOTH PZR PORV's	• *RCS Pressure <1865 • *Selected PORV closed (It is acceptable to return it to AUTO) • Verifies other PORV closed		

TERMINATING CUE: Selected PORV closed.

JOB PERFORMANCE MEASURE
FOLLOW-UP QUESTION DOCUMENTATION:

NAME: _____
DATE: _____

SYSTEM: EOP's

TASK: De-pressurize the RCS during a natural circulation cooldown: TRIP-4 (Alternate Path)

TASK NUMBER: 1150030501

QUESTION: _____

RESPONSE: _____

RESULT: ☐ -SAT ☐ -UNSAT

QUESTION: _____

RESPONSE: _____

RESULT: ☐ -SAT ☐ -UNSAT

INITIAL CONDITIONS:

A Loss of Off-site Power has occurred from 100% power. The crew has completed the EOP's through Step 11, EOP-TRIP-4.

INITIATING CUE: Starting with Step 12, implement EOP-TRIP-4.

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

STATION: Salem

SYSTEM: Emergency Operating Procedures

TASK: Control RCS Pressure (Alternate Path)

TASK NUMBER: 1150030501

JPM NUMBER:

K/A NUMBER: EPE 007 EA1.03

APPLICABILITY:

	RO	SRO
IMPORTANCE FACTOR:	4.2	4.1
EO [ ] RO [X] SRO [X]	**RO**	**SRO**

EVALUATION SETTING/METHOD: Simulator

REFERENCES: EOP-TRIP-2 Rev 22

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLET Added NOTE in 9.1A

TIME PERIOD IDENTIFIED F Eliminated NOTE in 9.1.D

APPROVED: _____ E.M. Gallagher
PRINCIPAL T **'ERATIONS MANAGER**

CAUTION: **No plant eq ... performance of a JPM without the following:**

1. **Permiss... from the OS Or Unit CRS;**
2. **Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).**
3. **Verification of the "as left" condition by a qualified individual.**

ACTUAL JPM COMPLETION TIME: _____

ACTUAL TIME CRITICAL COMPLETION TIME: _____

JPM PERFORMED BY: _____ **GRADE:** [ ] **SAT** [ ] **UNSAT**

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE: _____ **DATE:** _____

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: EOP's

TASK: Control RCS Pressure

TASK NUMBER: 1150030501

INITIAL CONDITIONS:

- Provide EOP-TRIP-2, marked up through Step 8
- IC-191 for ECHO Exam. This IC was developed by:

  1. Reset to IC-1
  2. Initiate a manual reactor trip and perform actions through Step 8, TRIP-2
  3. Enter PR016A and C severity 2100 and 2238 respectively after RCS Pressure has recovered
  4. Stop 21 and 23 RCP's
  5. Allow RCS Pressure to exceed PORV setpoint and then freeze, snap and store in IC slot
  6. Mark up EOP-TRIP-2, through Step 8

INITIATING CUE:

The Reactor was manually tripped due to a secondary problem. The crew has completed the EOP's through Step 8, EOP-TRIP-2. Starting with Step 9, implement EOP-TRIP-2.

Successful Completion Criteria:

1. **All critical steps completed.**
2. **All sequential steps completed in order.**
3. **All time-critical steps completed within allotted time.**
4. **JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).**

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: EOP's

TASK: Control RCS Pressure (Alternate Path)

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	9	Is Pressurizer Pressure > 1765?	Yes		
	9.1	Is Pressurizer Pressure stable at or trending to 2235?	No		
	A	Is Pressurizer Pressure >2235 and rising?	Yes ***EVALUATOR: The candidate may take action to operate the PZR PORV's since they are not operating properly. If so, evaluate performance IAW Step F.***		
*	B	Place Pressurizer Heaters in MANUAL and off	Heaters selected to MANUAL and OFF		
	C	Is Normal Spray Available?	No		
	D	Is Letdown flow established?	Verifies letdown flow by valve positions and/or flow indication		
*	E	Depressurize the RCS using AUX SPRAY • Open CV75 • Close CV77 • Close CV79	CV75 indicating open and CV77 & 79 indicating closed ***See Terminating Cue***		
*	F	Use one PORV to control RCS pressure	Maintains RCS pressure <PORV AUTO setpoint but > low pressure SI setpoint		

TERMINATING CUE: RCS Pressure within or on a controlled trend to the normal band

JOB PERFORMANCE MEASURE
FOLLOW-UP QUESTION DOCUMENTATION:

NAME: _____
DATE: _____

SYSTEM: EOP's

TASK: Control RCS Pressure (Alternate Path)

TASK NUMBER: 1150030501

QUESTION: _____

RESPONSE: _____

RESULT: ☐ **-SAT** ☐ **-UNSAT**

QUESTION: _____

RESPONSE: _____

RESULT: ☐ **-SAT** ☐ **-UNSAT**

INITIAL CONDITIONS:

The Reactor was manually tripped due to a secondary problem. The crew has completed the EOP's through Step 8, TRIP-2.

INITIATING CUE: Starting with Step 9, implement EOP-TRIP-2.

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

STATION: SALEM

SYSTEM: Electrical Distribution

TASK: Failure of 2C 4KV Vital Bus to transfer to the Alternate Source

TASK NUMBER: 062 004 01 01

JPM NUMBER:

K/A NUMBER: 062 A4.01

APPLICABILITY:

	RO	SRO
IMPORTANCE FACTOR:	3.3	3.1
	RO	**SRO**

EO [ ] **RO** [X] **SRO** [X]

EVALUATION SETTING/METHOD: Simulator

REFERENCES: S2.OP-SO.4KV-0003(Q), 2C 4KV Vital Bus Operation
S2.OP-AB.4KV-0003(Q), Loss of 2C 4KV Vital Bus

TOOLS AND EQUIPMENT: NONE

VALIDATED JPM COMPLETION TIME: 15 MIN

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

APPROVED:

J.K. Lloyd	E.M. Gallagher
PRINCIPAL TRAINING SUPERVISOR	**OPERATIONS MANAGER**

CAUTION: **No plant equipment shall be operated during the performance of a JPM without the following:**

1. **Permission from the OS or Unit CRS;**
2. **Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).**
3. **Verification of the "as left" condition by a qualified individual.**

ACTUAL JPM COMPLETION TIME: _____

ACTUAL TIME CRITICAL COMPLETION TIME: _____

JPM PERFORMED BY: _____ **GRADE:** [ ] **SAT** [ ] **UNSAT**

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE: _____ **DATE:** _____

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

SIMULATOR SETUP INSTRUCTIONS

SYSTEM: Electrical Distribution

TASK: Failure of 2C 4KV Vital Bus to transfer to the Alternate Source

TASK NUMBER: 062 004 01 01

SIMULATOR IC: 100% IC or as snapped on disk (IC-197 for ECHO Exam)

MALFUNCTIONS REQUIRED:

OVERRIDES REQUIRED:
FLOW > (100-FC809 G3) > 0
C812:OVDI:24CSD OPEN

SPECIAL INSTRUCTIONS: Ensure 21 Charging Pp in service and 22 BAT Pp and 22 PW Pp are in AUTO.

SIMULATOR OPERATOR CAUTION

Event 1 must be "Accepted" before it will function. The following steps must be completed to Accept the event and enable the Event Trigger:

1. **Reset to IC**
2. **Go to "RUN" – The simulator must be in "Run" to accept the event.**
3. **Open "FLOW" events**
4. **Double click on Event 1**
5. **Click on "Accept New Event"**

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Electrical Distribution

TASK: Failure of 2C 4KV Vital Bus to transfer to the Alternate Source

TASK NUMBER: 062 004 01 01

INITIAL CONDITIONS:

1. The unit is at 100% power. 23 Station Power Transformer will be removed from service while an oil leak is repaired.

INITIATING CUE:

Transfer 2C Vital Bus to 24 Station Power Transformer.

Successful Completion Criteria:

1. **All critical steps completed.**
2. **All sequential steps completed in order.**
3. **All time-critical steps completed within allotted time.**
4. **JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).**

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Electrical Distribution

TASK: Failure of 2C 4KV Vital Bus to transfer to the alternate source

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	1	Operator reviews procedure	Evaluator provides a copy of the procedure with all appropriate sections signed off. ***NOTE: This is a Category I procedure. Work Standards require that the operator refer to the procedure at each step of the task. Individual step documentation shall be complete prior to proceeding to the next step.***		
	2	ENSURE the following conditions exist prior to transferring 2C 4KV Vital Bus from one SPT to the other SPT: • 2C 4KV Vital Bus 125 VDC control power is energized. • 2C 4KV Vital Bus 28 VDC control power is energized. • SPT assuming load is energized and available for service.	Step signed off in procedure		
	3	IF 2CC131, RCP THERMAL BARRIER ISOLATION, is in AUTO, THEN PLACE in MANUAL.	Presses the 2CC131 MANUAL button and verifies the button illuminates.		

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Electrical Distribution

TASK: Failure of 2C 4KV Vital Bus to transfer to the alternate source

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	4	IF transferring 2C 4KV Vital Bus from 23 SPT to 24 SPT, THEN: ENSURE ALL Overhead Annunciators for the 24 SPT are clear.	Observes no OHA alarms on K Section		
	5	**PRESS** Mimic Bus 2C VITAL BUS INFEED 24CSD BREAKER pushbutton AND **ENSURE** Console Bezel 24CSD MIMIC BUS INTLK CLOSE SELECTION illuminates.	• Presses the Mimic Bus 2A VITAL BUS INFEED 24CSD BREAKER button. • Verifies button color changes to yellow. • Verifies 24CSD MIMIC BUS INTLK CLOSE SELECTION illuminates.		
	6	**PRESS** Console Bezel 24CSD CLOSE pushbutton AND **ENSURE** the following: • 24CSD is closed. • 23CSD is open. • 2C 4KV Vital Bus voltage is 4.22-4.36KV. • Console Bezel 24CSD MIMIC BUS INTLK CLOSE SELECTION is extinguished.	Notes 24CSD failed to close and 2C EDG energized the bus. Responds to alarms and enters S2.OP-AB.4KV-0003		

NAME: _____

DATE: _____

SYSTEM: Electrical Distribution

TASK: Failure of 2C 4KV Vital Bus to transfer to the alternate source

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	7	Was 22 Charging Pump providing Seal Injection and Charging Flow?	Checks Charging Pump status and answers NO.		
*	8	PLACE 21 Primary Water Pump in AUTO.	Presses the 21 Primary Water Pump AUTO button and verifies the button illuminates.		
*	9	PLACE 21 BAT Pump in AUTO.	Presses the 21 BAT Pump AUTO button and verifies the button illuminates.		
	10	Is 2C 4KV Vital Bus energized from the Diesel Generator?	Checks the 2C Diesel Bezel and 2C Bus voltage and answers YES.		
	11	RESET EMERGENCY loading for 2C Diesel Generator.	Presses the RESET EMERGENCY LOADING button and verifies the button illuminates.		
	12	RESET 230V Control Center.	Presses the RESET 230V button and verifies the button illuminate.		
*	13	OPEN 23SW20 Turbine Area 22 Header isolation.	Presses the 23SW20 OPEN button and verifies the button illuminates.		

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Electrical Distribution

TASK: Failure of 2C 4KV Vital Bus to transfer to the alternate source

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	14	START/STOP 2C Vital Bus loads (Attachment 1) as necessary.	Refers to Attachment 1 and stops 22CCP and 23 CCW Pp		
	15	**IF** the automatic start of a CCW pump closed 1CC131, **THEN** OPEN 2CC131, RCP Thermal Barrier Valve AND Place in AUTO.	Presses the 2CC131 AUTO button and verifies the button illuminates.		

TERMINATING CUE: 2CC131 step completed.

JOB PERFORMANCE MEASURE
FOLLOW-UP QUESTION DOCUMENTATION:

NAME: _____
DATE: _____

SYSTEM: Electrical Distribution

TASK: Failure of 2C 4KV Vital Bus to transfer to the Alternate Source

OPEN REFERENCE:
TASK NUMBER: 062 004 01 01

QUESTION:

RESPONSE: _____

RESULT: ☐ **-SAT** ☐ **-UNSAT**

INITIAL CONDITIONS:

- The unit is at 100% power. 23 Station Power Transformer (SPT) will be removed from service while an oil leak is repaired.

INITIATING CUE:

Transfer 2C Vital Bus to 24 Station Power Transformer.

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

STATION: SALEM

SYSTEM: EDG

TASK: Local start of EDG per LOPA-1

TASK NUMBER: 1150140501

JPM NUMBER:

APPLICABILITY:
EO [X] **RO** [X] **SRO** [X]

K/A NUMBER: 2.1.30

IMPORTANCE FACTOR:	3.9	3.4
	RO	**SRO**

EVALUATION SETTING/METHOD: In-Plant

REFERENCES: EOP-LOPA-1 S2.OP-SO.DG-0001

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 10 mins.

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

APPROVED: **J.K. Lloyd** — **PRINCIPAL TRAINING SUPERVISOR**; **E.M. Gallagher** — **OPERATIONS MANAGER**

CAUTION: **No plant equipment shall be operated during the performance of a JPM without the following:**

1. **Permission from the OS Or Unit CRS;**
2. **Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).**
3. **Verification of the "as left" condition by a qualified individual.**

ACTUAL JPM COMPLETION TIME: _____

ACTUAL TIME CRITICAL COMPLETION TIME: _____

JPM PERFORMED BY: _____ **GRADE:** ☐ **SAT** ☐ **UNSAT**

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE: _____ **DATE:** _____

NAME: _____

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

DATE: _____

SYSTEM: EDG

TASK: Local start of EDG per LOPA-1

TASK NUMBER: 1150140501

INITIAL CONDITIONS:

1. There has been a loss of all AC power. The operating crew has implemented EOP-LOPA-1.
2. Electricians have replaced a relay on 2A EDG and believe it is ready to be started.
3. A NEO has completed all of the startup checks.

INITIATING CUE:

The CRS has directed you to locally start 2A EDG IAW S2.OP-SO.DG-0001.

Successful Completion Criteria:

1. **All critical steps completed.**
2. **All sequential steps completed in order.**
3. **All time-critical steps completed within allotted time.**
4. **JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).**

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Electrical

TASK: Locally start an Emergency Diesel Generator

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	1	NOTIFY NCO that 2A Diesel Generator is to be started locally.	Locates nearest page ***CUE:*** NCO acknowledges		
	2	VERIFY voltage permissive indicator light, EDG VOLTAGE, on Generator Control Panel is OFF	Light is OFF per startup checks		
	3	VERIFY speed permissive indicator light, EDG SPEED, on Generator Control Panel is OFF.	Light is OFF per startup checks		
*	4	PLACE GENERATOR LOADING switch in MANUAL (DROOP).	Points out correct switch and MANUAL (DROOP) position		
	5	ENSURE local annunciator B-9, GENERATOR LOADING IN DROOP MODE, is in alarm.	Points out alarm B-9 ***CUE***: Alarm has actuated		
*	6	PLACE Diesel Generator STOP/START switch to START.	Points out correct switch and position. ***CUE***: D/G is accelerating		

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: Electrical

TASK: Locally start an Emergency Diesel Generator

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
*	7	If DG Speed is not 900 rpm, THEN SET speed to 900 rpm using the SPEED CONTROL SWITCH (GS).	***CUE:*** Speed is 880 rpm Points out correct switch and turns in proper direction ***CUE:*** Speed is 900 rpm		
	8	VERIFY voltage permissive indicator light, EDG VOLTAGE, on Generator Control Panel is ON	Points out correct light ***CUE:*** Voltage Permissive light is ON		
	9	VERIFY speed permissive indicator light, EDG SPEED, on Generator Control Panel is ON	Points out correct light ***CUE:*** Speed permissive light is on		
	10	IF Field Ground Relay 64/G white indicating light is NOT illuminated, and local annunciator C-6, GENERATOR FIELD GROUND, is clear, THEN RESET 64/G relay AND ENSURE 64/G white indicating lamp is illuminated.	***CUE:*** Field Ground Relay 64/G white indicating light is illuminated		
	11	ENSURE 1A Diesel Generator K1C Field Flashing Relay Supervisory Light is OFF.	***CUE***: K1C Field Flashing light is OFF		

TERMINATING CUE: Reaches step for recording readings.

JOB PERFORMANCE MEASURE
FOLLOW-UP QUESTION DOCUMENTATION:

NAME: _____
DATE: _____

SYSTEM: EDG

TASK: Local start of EDG per LOPA-1

TASK NUMBER: 1150140501

QUESTION: _____

RESPONSE: _____

RESULT: ☐ **-SAT** ☐ **-UNSAT**

QUESTION: _____

RESPONSE: _____

RESULT: ☐ **-SAT** ☐ **-UNSAT**

INITIAL CONDITIONS:

- There has been a loss of all AC power. The operating crew has implemented EOP-LOPA-1.
- Electricians have replaced a relay on 2A EDG and believe it is ready to be started.
- A NEO has completed all of the startup checks.

INITIATING CUE:

The CRS has directed you to locally start 2A EDG IAW S2.OP-SO.DG-0001.

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

STATION: Salem

SYSTEM: ECCS

TASK: TCAF LBLOCA: transfer to Cold Leg Recirculation w/2B Vital Bus de-energized

TASK NUMBER: 1150100501

JPM NUMBER:

APPLICABILITY:
EO [ ] **RO** [X] **SRO** [X]

K/A NUMBER: EPE 011 EA1.11

IMPORTANCE FACTOR:	4.1	4.1
	RO	**SRO**

EVALUATION SETTING/METHOD: Simulator

REFERENCES: 2-EOP-LOCA-3

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 9 minutes

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: See Initiating Cue

APPROVED: **J.K. Lloyd**
PRINCIPAL TRAINING SUPERVISOR

E.M. Gallagher
OPERATIONS MANAGER

CAUTION: **No plant equipment shall be operated during the performance of a JPM without the following:**

1. **Permission from the OS Or Unit CRS;**
2. **Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).**
3. **Verification of the "as left" condition by a qualified individual.**

ACTUAL JPM COMPLETION TIME: _____

ACTUAL TIME CRITICAL COMPLETION TIME: _____

JPM PERFORMED BY: _____ **GRADE:** [ ] **SAT** [ ] **UNSAT**

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE: _____ **DATE:** _____

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: ECCS

TASK: TCAF LBLOCA: transfer to Cold Leg Recirculation w/2B Vital Bus de-energized

TASK NUMBER: 1150100501

INITIAL CONDITIONS:

1. Snapshot of LBLOCA, immediately following actuation of the RWST LOW level alarm, with 2B 4KV Vital Bus de-energized (on electrical fault).

INITIATING CUE:
You are the RO/PO. Execute the steps of LOCA-3. This task is time critical. IAW the procedure you should close SJ69 within 3 minutes and complete the shift to CLR within 11.2 minutes, as evidenced by closing SJ30, SJ1 and SJ2. The clock starts when you read the first step. Respond only to alarms associated with the evolution.

Successful Completion Criteria:

1. **All critical steps completed.**
2. **All sequential steps completed in order.**
3. **All time-critical steps completed within allotted time.**
4. **JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).**

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: ECCS

TASK: TCAF a LBLOCA: transfer to CL Recirculation with 2B 4KV Vital Bus de-energized

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	1	Is Containment Recirc Sump level >62%?	***Evaluator: Log time for evaluation of critical time requirements:*** _____. Verifies either Ch. A or B Sump Level indication is >62%.		
*	2	Depress "SUMP AUTO ARMED" PB's on 21 and 22SJ44 Bezels	WHITE indicating light energizes and valves stroke OPEN. The RED OPEN indicating light energizes when each valve reaches full stroke.		
	3	Remove lockouts for the following valves: • 2SJ67 • 2SJ68 • 2SJ69	Selects VALVE OPERABLE for SJ67, SJ68, and SJ69 on RP-4 Panel		
	4	Are 21 and 22SJ 44 Open?	NO. Power is not available to 22SJ44		
	5	Reset SI	Verifies both SI RESET PB's illuminated		
	6	Reset Emergency Loading for each SEC	Verifies EMERGENCY LOADING RESET PB illuminated for 2A and 2C SEC. 2B Blocked		
	7	Is 21SJ44 open?	YES		
# , *	8	Stop 22 RHR Pp	22 RHR Pp stopped		

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: ECCS

TASK: TCAF a LBLOCA: transfer to CL Recirculation with 2B 4KV Vital Bus de-energized

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
*, #	9	Close SJ69	SJ69 closed indication ***Evaluator:*** Log time for evaluating completion of time critical task:_____ (<3 minutes)		
	10	Start 21 RHR Pp	Verifies 21 RHR Pp running		
	11	Initiate close on 22RH4 and continue	No power is available to 22RH4 (RHR SUCTION)		
	12	Initiate open on 22SJ44 and continue	22SJ44 has no power		
	13	When 22SJ44 opens then start 21 RHR Pp	22SJ44 has no power		
	14	Reset SI	SI RESET previously		
	15	Reset EMERGENCY LOADING for each SEC	2A and 2CSEC's RESET, 2B cannot be RESET		
	16	Reset 230V CONTROL CENTERS	Verifies 230V CONTROL CENTER RESET PB on each DG Bezel is illuminated.		
	17	Are both CS Pp's running?	YES		
*	18	Stop 22 CS Pump	22 CS Pump stopped		

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: ECCS

TASK: TCAF a LBLOCA: transfer to CL Recirculation with 2B 4KV Vital Bus de-energized

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
*	19	Close 21 and 22RH19	21RH19 (RHR HX DISCH X-CONN VALVES) closed indication. *NOTE:* No power is available to 22RH19		
	20	Stop 23 Charging Pp	23 Charging Pump is OOS		
	21	Select appropriate flowpath transition step from TABLE B	Determines 2A and 2C 4KV Vital Buses are energized and proceeds to Step 70		
*	22	Stop 22 SI Pp	22 SI Pp stopped		
	23	Open 21CC16	Verifies 21CC16 (CCW to RHR HX) open		
*	24	Close 2SJ67 and 2SJ68	2SJ67&68 (SI Pp Miniflow) closed indication		
	25	Close 2RH1 and 2RH2	Verifies 2RH1 and 2RH2 (Common Suction Valves) closed.		
*	26	Open 21SJ45	21SJ45 (RHR Pp to Charging Pp's) open indication		
*	27	Open 21SJ113	Verifies 21SJ113 (SI-Chg Pp X-over) open		
	28	Start 21 SI and 22 Chg Pp	Verifies 21 SI and 22 Chg Pp running		

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: ECCS

TASK: TCAF a LBLOCA: transfer to CL Recirculation with 2B 4KV Vital Bus de-energized

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	29	CONTINUOUS CAUTION: If any pump cavitates - - -			
	30	Remove the lockout from 2SJ30	Selects VALVE OPERABLE for 2SJ30 on RP-4 Panel		
*	31	Isolate the RWST as follows: • Close 2SJ30 • Close 2SJ1	• 2SJ30 closed indication • 2SJ1 (RWST-Chg Pp) closed indication ***Evaluator:*** Log time for evaluating completion of time critical task:_____ (<11.2 minutes)		
	32	Send an operator to close 2SJ2	***CUE:*** OSC notified to dispatch operator to close 2SJ2		
*	33	Place controller for recirculation valve 21RH29 in MANUAL and CLOSE the valve	Selects MANUAL, depresses CLOSE PB and verifies 21RH29 closed indication		

TERMINATING CUE: 21RH29 closed

JOB PERFORMANCE MEASURE
FOLLOW-UP QUESTION DOCUMENTATION:

NAME: _____
DATE: _____

SYSTEM: ECCS

TASK: TCAF LBLOCA: transfer to Cold Leg Recirculation w/2B 4KV Vital Bus de-energized

TASK NUMBER: 1150100501

QUESTION: _____

RESPONSE: _____

RESULT: ☐ **-SAT** ☐ **-UNSAT**

QUESTION: _____

RESPONSE: _____

RESULT: ☐ **-SAT** ☐ **-UNSAT**

INITIAL CONDITIONS:

1. A LBLOCA has occurred. All ECCS equipment functioned as designed except 2B Vital Bus failed to energize due to an electrical fault. The transition to LOCA-3 (from LOCA-1) was just made following actuation of the RWST LO Level alarm.

INITIATING CUE:

You are the RO/PO. Execute the steps of LOCA-3. This task is time critical. IAW the procedure you should close SJ69 within 3 minutes and complete the shift to CLR within 11.2 minutes, as evidenced by closing SJ30, SJ1 and SJ2. The clock starts when you read the first step. Respond only to alarms associated with the evolution.

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

STATION: Salem

SYSTEM: ECCS

TASK: TCAF LBLOCA: transfer to Cold Leg Recirculation w/2A vital bus de-energized

TASK NUMBER: 1150100501

JPM NUMBER:

APPLICABILITY:
EO [ ] **RO** [X] **SRO** [X]

	RO	SRO
K/A NUMBER:	EPE 011 EA1.11	
IMPORTANCE FACTOR:	4.1	4.1

EVALUATION SETTING/METHOD: Simulator

REFERENCES: 2-EOP-LOCA-3

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 9 minutes

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: See Initiating Cue

APPROVED:

J.K. Lloyd	**E.M. Gallagher**
PRINCIPAL TRAINING SUPERVISOR	**OPERATIONS MANAGER**

CAUTION: **No plant equipment shall be operated during the performance of a JPM without the following:**

1. **Permission from the OS Or Unit CRS;**
2. **Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).**
3. **Verification of the "as left" condition by a qualified individual.**

ACTUAL JPM COMPLETION TIME: _____

ACTUAL TIME CRITICAL COMPLETION TIME: _____

JPM PERFORMED BY: _____ **GRADE:** [ ] **SAT** [ ] **UNSAT**

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE: _____ **DATE:** _____

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: ECCS

TASK: TCAF LBLOCA: transfer to Cold Leg Recirculation w/2A vital bus de-energized

TASK NUMBER: 1150100501

INITIAL CONDITIONS:

1. Snapshot of LBLOCA, immediately following actuation of the RWST LOW level alarm, with 2A 4KV Vital Bus de-energized (on electrical fault).

INITIATING CUE:
You are the RO/PO. Execute the steps of LOCA-3. This task is time critical. IAW the procedure you should close SJ69 within 3 minutes and complete the shift to CLR within 11.2 minutes, as evidenced by closing SJ30, SJ1 and SJ2. The clock starts when you read the first step. Respond only to alarms associated with the evolution.

Successful Completion Criteria:

1. **All critical steps completed.**
2. **All sequential steps completed in order.**
3. **All time-critical steps completed within allotted time.**
4. **JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).**

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: ECCS

TASK: TCAF a LBLOCA: transfer to CL Recirculation with 2A 4KV Vital Bus de-energized

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	1	Is Containment Recirc Sump level >62%?	***Evaluator: Log time for evaluation of critical time requirements:*** _____. Verifies either Ch. A or B Sump Level indication is >62%.		
*	2	Depress "SUMP AUTO ARMED" PB's on 21 and 22SJ44 Bezels	WHITE indicating light energizes and valves stroke OPEN. The RED OPEN indicating light energizes when each valve reaches full stroke.		
	3	Remove lockouts for the following valves: • 2SJ67 • 2SJ68 • 2SJ69	Selects VALVE OPERABLE for SJ67, SJ68, and SJ69 on RP-4 Panel (No power is available to SJ68)		
	4	Are 21 and 22SJ 44 Open?	NO. Power is not available to 21SJ44		
	5	Reset SI	Verifies both SI RESET PB's illuminated		
	6	Reset Emergency Loading for each SEC	Verifies EMERGENCY LOADING RESET PB illuminated for 2B and 2C SEC, 2A SEC blocked.		
	7	Is 21SJ44 open?	NO		

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: ECCS

TASK: TCAF a LBLOCA: transfer to CL Recirculation with 2A 4KV Vital Bus de-energized

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
# , *	8	Stop 21 RHR Pp	Stops 21 RHR Pp		
* , #	9	Close SJ69	SJ69 closed indication ***Evaluator: Log time for evaluating completion of time critical task:_____ (<3 minutes)***		
	10	Start 22 RHR Pp	Verifies 22 RHR Pp running		
	11	Initiate close on 21RH4 and continue	No power available to 21RH4		
	12	Initiate open on 21SJ44 and continue	21SJ44 has no power		
	13	When 21SJ44 opens then start 21 RHR Pp	21SJ44 has no power		
	14	Reset SI	Previously performed		
	15	Reset EMERGENCY LOADING for each SEC	Verifies EMERGENCY LOADING RESET PB illuminated for 2B and 2C SEC, 2A SEC blocked.		
	16	Reset 230V CONTROL CENTERS	Verifies 230V CONTROL CENTER RESET PB on each DG Bezel is illuminated.		
	17	Are both CS Pp's running?	No		

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: ECCS

TASK: TCAF a LBLOCA: transfer to CL Recirculation with 2A 4KV Vital Bus de-energized

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
*	18	Close 21 and 22RH19	21 and 22RH19 (RHR HX DISCH X-CONN VALVES) closed indication		
	19	Stop 23 Charging Pp	23 Charging Pump OOS		
	20	Select appropriate flowpath transition step from TABLE B	Determines 2B and 2C 4KV Vital Buses are energized and proceeds to Step 55		
*	21	Stop 21 Charging Pp	Stops 21 Charging Pp		
	22	Open 22CC16	Verifies 22CC16 (CCW to RHR HX) open		
*	23	Close 2SJ67	2SJ67 (SI Pp Miniflow) closed indication		
	24	Close 2RH1 and 2RH2	Verifies 2RH1 (Common Suction Valves) closed. No power available to 2RH2.		
*	25	Open 22SJ45	22SJ45 (RHR Pp to Charging Pp's) open indication		
*	26	Open 22SJ113	22SJ113 (SI-Chg Pp X-over) open indication		
	27	Start 22 SI and 22 Chg Pp	Verifies 22 SI and Chg Pp running		
	28	CONTINUOUS CAUTION: If any pump cavitates - - -			

OPERATOR TRAINING PROGRAM

JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: ECCS

TASK: TCAF a LBLOCA: transfer to CL Recirculation with 2A 4KV Vital Bus de-energized

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	29	Remove the lockout from 2SJ30	Selects VALVE OPERABLE for 2SJ30 on RP-4 Panel		
*	30	Isolate the RWST as follows: • Close 2SJ30 • Close 2SJ1 • Close 2SJ2	• 2SJ30 closed indication • 2SJ1 (RWST-Chg Pp) closed indication • 2SJ2 (RWST-Chg Pp) closed indication ***Evaluator: Log time for evaluating completion of time critical task:_____ (< 11.2 minutes)***		
*	31	Place controller for recirculation valve 22RH29 in MANUAL and CLOSE the valve	Selects MANUAL, presses CLOSE PB and verifies 22RH29 closed indication		

TERMINATING CUE: 22RH29 closed

JOB PERFORMANCE MEASURE
FOLLOW-UP QUESTION DOCUMENTATION:

NAME: _____
DATE: _____

SYSTEM: ECCS

TASK: TCAF LBLOCA: transfer to Cold Leg Recirculation w/2A 4KV Vital Bus de-energized

TASK NUMBER: 1150100501

QUESTION: _____

RESPONSE: _____

RESULT: ☐ -SAT ☐ -UNSAT

QUESTION: _____

RESPONSE: _____

RESULT: ☐ -SAT ☐ -UNSAT

INITIAL CONDITIONS:

1. A LBLOCA has occurred. All ECCS equipment functioned as designed except 2A Vital Bus failed to energize due to an electrical fault. The transition to LOCA-3 (from LOCA-1) was just made following actuation of the RWST LO Level alarm.

INITIATING CUE:

You are the RO/PO. Execute the steps of LOCA-3. This task is time critical. IAW the procedure you should close SJ69 within 3 minutes and complete the shift to CLR within 11.2 minutes, as evidenced by closing SJ30, SJ1 and SJ2. The clock starts when you read the first step. Respond only to alarms associated with the evolution.

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

STATION: SALEM

SYSTEM: CVCS

TASK: Perform a dilution of the reactor coolant system.

TASK NUMBER: 004 014 01 01

JPM NUMBER: NRC-2-01

APPLICABILITY:
EO [ ] **RO** [X] **SRO** [X]

K/A NUMBER: 004 A4.12

IMPORTANCE FACTOR:	3.8	3.3
	RO	**SRO**

EVALUATION SETTING/METHOD: Simulator

REFERENCES: S2.OP-SO.CVC-0006 Boron Concentration Control
S2.RE-RA.ZZ-0012 Figures

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 15 minutes

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

APPROVED: **J.K. Lloyd** — **PRINCIPAL TRAINING SUPERVISOR**; **E.M. Gallagher** — **OPERATIONS MANAGER**

CAUTION: **No plant equipment shall be operated during the performance of a JPM without the following:**

1. **Permission from the OS or Unit CRS;**
2. **Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).**
3. **Verification of the "as left" condition by a qualified individual.**

ACTUAL JPM COMPLETION TIME: _____

ACTUAL TIME CRITICAL COMPLETION TIME: _____

JPM PERFORMED BY: _____ **GRADE:** [ ] **SAT** [ ] **UNSAT**

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE: _____ **DATE:** _____

OPERATOR TRAINING PROGRAM
JOB PERFORMANCE MEASURE

NAME: _____

DATE: _____

SYSTEM: CVCS

TASK: Perform a dilution of the reactor coolant system.

TASK NUMBER: 004 014 01 01

INITIAL CONDITIONS:

1. The unit is in Mode 3 with preparations in progress for a reactor startup this shift.

2. Chemistry has reported current boron concentration as 870 ppm. Per an ECP prepared by Reactor Engineering, boron concentration must be adjusted to 850 ppm before rod withdrawal begins.
   NOTE: Any boron concentration values can be used for this JPM by adjusting the values in the JPM IAW the REM Figures. Ensure that sufficient latitude exists for interpolation between exponential curves when determining critical tasks.

SIMULATOR SETUP

1. Any HSB IC with Tavg approx. 547 °F.
2. CVCS Makeup Control Mode Select in AUTO with boron flow setpoint at approximately 7 gpm.
3. Place 2CV181 in MANUAL.

INITIATING CUE:

You are the RO. Perform the necessary calculations and adjust RCS boron concentration to 850 ppm.

Successful Completion Criteria:

1. **All critical steps completed.**
2. **All sequential steps completed in order.**
3. **All time-critical steps completed within allotted time.**
4. **JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made (and NRC concurrence is obtained).**

OPERATOR TRAINING PROGRAM **NAME:** _____

JOB PERFORMANCE MEASURE **DATE:** _____

SYSTEM: CVCS

TASK: Perform a dilution of the reactor coolant system.

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	1	Operator obtains S2.OP-SO.CVC-0006	***NOTE:*** Category II procedure use requirements apply.		
* #	2	DEPRESS the Makeup Control Mode Select STOP PB.	Presses the STOP pushbutton, STOP PB light illuminates.		
*	3	ENSURE following valves in AUTO: • 2CV179, PRI WTR FLOW. • 2CV181, MAKEUP FLOWPATH. • 2CV185, MAKEUP FLOWPATH. • 2CV172, BORIC ACID FLOW.	Verifies AUTO light illuminated for 2CV179, 2CV172 and 2CV181. *Places 2CV185 in AUTO.		
#	4	OBTAIN Primary Water Flow setpoint for desired dilution rate from REM, Fig. 102.	***CUE***: Accomplish the dilution over the next 30 minutes period.		
# *	5	ADJUST 2CV179 setpoint to value obtained in previous step.	Adjusts 2CV179 setpoint to 46-67gpm.		

OPERATOR TRAINING PROGRAM **NAME:** _____

JOB PERFORMANCE MEASURE **DATE:** _____

SYSTEM: CVCS

TASK: Perform a dilution of the reactor coolant system.

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
#	6	DETERMINE amount of Primary Water required for dilution from REM, Fig. 101	Determines 1400-2000 gals. required.		
# *	7	Set Primary Water Flow Register to number of gallons as follows: • DEPRESS LIMIT 1 keypad. • IF desired value is not displayed, THEN DEPRESS CLR keypad and enter desired value. • DEPRESS ENT keypad.	Sets Primary Water Flow Register to 1400-2000 gals.		
	8	ENSURE at least one Primary Water Pump in AUTO.	Verifies one PW Pump AUTO light is illuminated.		
# *	9	DEPRESS Makeup Control Mode Select DILUTE PB.	DILUTE PB illuminated.		
# *	10	DEPRESS Makeup Control Mode Select START PB.	START PB illuminated.		

NAME: _____

DATE: _____

SYSTEM: CVCS

TASK: Perform a dilution of the reactor coolant system.

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	11	ENSURE following actions occur: • 2CV172 CLOSES • Primary Water Pump selected to AUTO, STARTS. • 2CV181 OPENS. • 2CV185 OPENS • 2CV179 MODULATES to setpoint flow. • Primary Water Flow Register indicates flow. • IF VCT level increases to 78%, THEN ENSURE letdown diverts to CVCS HUT.	Verifies proper response.		
	12	When the dilution is complete, DEPRESS Makeup Control Mode Select STOP PB.	***CUE:*** Assume the Primary Water Flow Register has reached the setpoint. STOP PB illuminated.		

OPERATOR TRAINING PROGRAM **NAME:** _____

JOB PERFORMANCE MEASURE **DATE:** _____

SYSTEM: CVCS

TASK: Perform a dilution of the reactor coolant system.

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
	13	ENSURE following actions occur: • Primary Water Pump selected for AUTO, STOPS. • 2CV181 CLOSES. • 2CV185 CLOSES • 2CV179 CLOSES.	Verifies the green light illuminates for the PW Pump in AUTO and 2CV181, 2CV185 and 2CV179 CLOSE		

TERMINATING CUE: Dilution is terminated.

JOB PERFORMANCE MEASURE
FOLLOW-UP QUESTION DOCUMENTATION:

NAME: _____
DATE: _____

SYSTEM: CVCS

TASK: Perform a dilution of the reactor coolant system.

TASK NUMBER: 004 014 01 01

QUESTION: _____

RESPONSE: _____

RESULT: ☐ **-SAT** ☐ **-UNSAT**

QUESTION: _____

RESPONSE: _____

RESULT: ☐ **-SAT** ☐ **-UNSAT**

INITIAL CONDITIONS:

- The unit is in Mode 3 with preparations in progress for a reactor startup this shift.
- Chemistry has reported current boron concentration as 870 ppm. Per an ECP prepared by Reactor Engineering, boron concentration must be adjusted to 850 ppm before rod withdrawal begins.

INITIATING CUE:

You are the RO. Perform the necessary calculations and adjust RCS boron concentration to 850 ppm.