

Simulator

JPMs

TMI-1 OPERATOR TRAINING

JOB PERFORMANCE MEASURE

B.1.a

TASK TITLE: **PERFORM EMERGENCY BORATION (ALTERNATE PATH REQUIRES BACKUP METHOD TO BE IMPLEMENTED)**

TASK NUMBER: 004C070101 Perform boration of the RCS from the BAMT or the RBAT.
TIF: 3.24

K/A REFERENCE: System: Chemical and Volume Control (004)
K/A: A4.07 (Page 3.1-19)
 Ability to manually operate and/or monitor in the control room:
 boration/dilution.
Rating (RO/SRO): 3.9/3.7

POSITION: SRO RO NLO

EVALUATION METHOD: PERFORM SIMULATE

EVALUATION LOCATION: SIMULATOR IN-PLANT CONTROL ROOM OTHER

TASK STANDARDS: Examinee initiates emergency boration flow from the BAMT to the Makeup (in accordance with Guide 1), verifies total RCS injection flow is greater than 50 gpm (in accordance with Rule 5.

APPROXIMATE COMPLETION TIME: 10 minutes

TIME-CRITICAL TASK COMPLETION TIME: NA minutes

REQUIRED TOOLS OR MATERIALS: OP-TM-EOP-010 Abnormal Transients Rules, Guides and Graphs.

REFERENCES: OP-TM-EOP-010 Abnormal Transients Rules, Guides and Graphs.

ALTERNATE PATH JPM? YES

SIMULATOR SETUP:

INITIALIZATION:

1. Select IC-16 - 100% hot full power (MOC)
2. Activate malfunctions and DI overrides listed below.
3. Manually trip the reactor.
4. Adjust Pressurizer level setpoint to 100 inches (25%)
5. Allow RCS pressure and temperature to stabilize in post-trip window.

EVENT TRIGGERS: N/A

MALFUNCTIONS:

- MU24A – Makeup Valve ES Alignment Failure (MU-V-14A).
- MU24B – Makeup Valve ES Alignment Failure (MU-V-14B).
- RD0203 – Stuck Rod (Group 1 Rod3).
- RD0226 – Stuck Rod (Group 4 Rod 1).

REMOTE FUNCTIONS: N/A

OVERRIDES:

- 02A5S59-ZDIPBOMUV14A (OFF)– Overrides MU-V-14A OPEN Pushbutton DI (false).
- 02A5S77-ZDIPBOMUV14B (OFF) – Overrides MU-V-14B OPEN Pushbutton DI (false).

MONITOR: N/A

READ TO STUDENT

When I tell you to begin, you are to **PERFORM EMERGENCY BORATION OF THE RCS**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps as if you were actually performing the task.

INITIAL CONDITIONS:

The reactor was manually tripped from full power.
Two safety rods failed to drop.
The reactor is SHUTDOWN.
RCS T-ave is 555°F.
RCS Pressure is returning to post trip window.

INITIATING CUE:

The Unit Supervisor directs you to perform RCS emergency boration, in accordance with OP-TM-EOP-010, Rule 5, Emergency Boration.

ARE THERE ANY QUESTIONS?

TIME CRITICAL: NO

JPM INSTRUCTION SHEET

DIRECTIONS TO STUDENT:

When I tell you to begin, you are to **PERFORM RCS EMERGENCY BORATION**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps as if you were actually performing the task.

INITIAL CONDITIONS:

The reactor was manually tripped from full power.

Two safety rods failed to drop.

The reactor is SHUTDOWN.

RCS T-ave is 555°F.

RCS Pressure returning to post trip window.

INITIATING CUE:

The Unit Supervisor directs you to perform RCS emergency boration, in accordance with OP-TM-EOP-010, Rule 5, Emergency Boration.

TIME CRITICAL: NO

*Denotes Critical Elements
#Denotes Sequential Step

#	STEP	STANDARD	S/U
NOTE: Examinee is expected to use the laminated copies of EOP Rules/Guides located at the console.			
1	Examinee obtains a copy of OP-TM-EOP-010, Abnormal Transients Rules, Guides and Graphs, and begins implementation of Rule 5, Emergency Boration.	With Rule 5, Emergency Boration, in hand, the examinee depresses the OPEN pushbuttons for MU-V-14A and MU-V-14B.	
2	Examinee attempts to open MU-V-14A and MU-V-14B.	Examinee depresses the OPEN pushbuttons for MU-V-14A and MU-V-14B on Console Center.	
*3	Examinee recognizes failure of MU-V-14A and MU-V-14B.	Examinee notes inability to open both MU-V-14A and MU-V-14B.	
4	Examinee references Guide 1, Emergency Boration Backup Methods.	Examinee obtains a copy of Guide 1, Emergency Boration Backup Methods.	
5	Examinee verifies at least 1 Makeup Pump is operating.	Examinee verifies that a Makeup Pump is operating by checking the Makeup Pump red breaker status light is illuminated.	
CUE: Inform the Examinee that the Backup Emergency Boration Source is the BORIC ACID MIX TANK (BAMT).			
*6	Examinee opens MU-V-51.	Examinee depresses the OPEN pushbutton for MU-V-51 (emergency boration valve from BAMT), and observes the valve opens (red light illuminates, green light de-energizes).	
*7	Examinee starts both boric acid injection pumps CA-P-1A and CA-P-1B.	Examinee starts both boric acid injection pumps CA-P-1A and CA-P-1B by turning the control switches to START. <ul style="list-style-type: none"> Examinee verifies lights status: red energized, green de-energized. Pump stroke counters can be heard clicking. 	
*8	Examinee returns to Rule 5, Emergency Boration, and verifies adequate RCS injection flow exists.	Examinee verifies greater than 50 gpm total RCS injection flow (MU, SI & HPI) using RCS Makeup and RCP Seal Injection flow meters on Console Center.	
Once > 50 GPM verified, JPM may be terminated.			

END TASK

JPM CHANGE HISTORY PAGE

REVISION	DATE	REFERENCE TITLE	DESCRIPTION (Include AI # if Appropriate)
0	04/12/03	OP-TM-EOP-010 Abnormal Transients Rules, Guides and Graphs	
1	05/12/03	OP-TM-EOP-010 Abnormal Transients Rules, Guides and Graphs	per NRC validation comments

TMI-1 OPERATOR TRAINING

JOB PERFORMANCE MEASURE

11.2.05.130

B.1.b

TASK TITLE: RESPOND TO AN INADVERTENT ES ACTUATION

TASK NUMBER: 0000300501 Respond to an inadvertent ES actuation.
TIF: 3.72

K/A REFERENCE: System: 013 Engineered Safety Features Actuation System (ESFAS)
K/A: A2.06 (Page 3.2-26)
Ability to (a) predict the impacts of the following malfunctions or operations on ESFAS; and (b) based Ability on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations; Inadvertent ESFAS actuation.
Rating (RO/SRO):3.7/4.0

POSITION: SRO RO NLO

EVALUATION METHOD: PERFORM SIMULATE

EVALUATION LOCATION: SIMULATOR IN-PLANT CONTROL ROOM OTHER

TASK STANDARDS: HPI flow to RCS terminated and reactor does not trip on high RCS pressure.

APPROXIMATE COMPLETION TIME: 10 minutes.

TIME-CRITICAL TASK COMPLETION TIME: NA.

CONDITION CRITICAL: Yes, Failure criteria is if the reactor trips on High RCS Pressure due to increase in RCS inventory.

REQUIRED TOOLS OR MATERIALS: OP 1105-3, Safeguards Actuation System, pages 31 and 32, Rev. 43.

REFERENCES: 1105-3 Safeguard Actuation system Rev. 43.

ALTERNATE PATH JPM? YES;

This JPM is ALTERNATE-PATH because the A-train 1600# Manual ES channels cannot be re-enabled after defeat per OP 1105-3, or the actuation will reoccur due to the relay failure mode. In addition, only one makeup pump is running and must be left on for makeup and seal injection.

SIMULATOR SETUP:

INITIALIZATION: Initialize the simulator at IC16.
Start MU-P-1A, start IC-P-1B, stop IC-P-1A, and stop MU-P-1B.
EVENT TRIGGERS: N/A.
MALFUNCTIONS: N/A.
REMOTE FUNCTIONS: Change CCR12 to NS.
OVERRIDES: Activate DI Override **02A4S66-ZDIPB1RCA ON PB1/RCA** to ON.
MONITOR: N/A.

READ TO STUDENT

When I tell you to begin, you are to **RESPOND TO THE INADVERTENT ES ACTUATION**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps as if you were actually performing the task.

INITIAL CONDITIONS:

- The plant is at 100% power, steady state.
- MU-P-1A is running with cooling by NSCC, and IC-P-1B is running, in preparation for MU-P-1B system outage. The tagging order for MU-P-1B is being prepared at this time.
- There is no major equipment out of service, and there are no surveillances in progress.
- Train 'A' ES actuation occurred 10 seconds ago, and has been declared inadvertent by the Unit Supervisor.

INITIATING CUE:

The Unit Supervisor directs you to **RESPOND TO THE INADVERTENT ES ACTUATION**, in accordance with 1105-3, Safeguards Actuation System, section 4.2, Actions for Inadvertent Actuations – Level 2.

ARE THERE ANY QUESTIONS?

TIME CRITICAL: NO

JPM INSTRUCTION SHEET

DIRECTIONS TO STUDENT:

When you are told to begin, you are to **RESPOND TO THE INADVERTENT ES ACTUATION**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps as if you were actually performing the task.

INITIAL CONDITIONS:

The plant is at 100% power, steady state.

MU-P-1A is running with cooling by NSCC, and IC-P-1B is running, in preparation for MU-P-1B system outage.

The switching order for MU-P-1B is being prepared at this time.

There is no major equipment out of service, and there are no surveillances in progress.

An ES actuation that occurred 10 seconds ago has been declared **inadvertent** by the Unit Supervisor.

INITIATING CUE:

The Unit Supervisor directs you to **RESPOND TO THE INADVERTENT ES ACTUATION**, in accordance with 1105-3, Safeguards Actuation System, section 4.2, Actions for Inadvertent Actuations – Level 2.

TIME-CRITICAL: NO

*Denotes Critical Elements
 #Denotes Sequential Step

#	STEP	STANDARD	S/U
<p>NOTE: Although ESAS bypass/defeat steps are delineated in 1105-3, it is management EXPECTATION that the Examinee can perform these steps from memory.</p> <p>CUE: Give Examinee copy of OP 1105-3, section 4.2.</p>			
1	Examinee verifies that the ES Actuation was not due to a valid signal.	<p>Examinee verifies no valid ES actuation is present and that it is an inadvertent ES actuation.</p> <ul style="list-style-type: none"> RCS Pressure is normal for plant condition RB Pressure normal (< 2psig) 	
2	Examinee requests permission to clear (Defeat) ES actuation signal.	Examinee requests permission to clear (Defeat) ES actuation signal from the Unit Supervisor.	
<p>CUE: When asked for permission to clear ES Actuation, as the Unit Supervisor grant permission to ONLY DEFEAT the ES Actuation Signal.</p>			
*3	<p>Examinee defeats Train 'A' 1600# manual ES actuation signals.</p> <p>NOTE: If examinee defeats and then re-enables the channels per OP 1105-3, the channels will re-actuate due to the relay failure mode. If this occurs the Examinee will be required to DEFEAT the signals again.</p>	<p>Examinee depresses ENABLE/DEFEAT pushbuttons (ONE TIME EACH) to DEFEAT on CC: PB2/RCA, PB3/RCA, and PB4/RCA</p> <p>Indications that Train 'A' 1600# manual ES actuation signals have been successfully defeated:</p> <ul style="list-style-type: none"> Yellow "defeat" lamps illuminated on CC pushbuttons for PB2/RCA, PB3/RCA, and PB4/RCA. Train 'A' 1600# Manual Actuation blue lamps de-energized on Panel PCR. 	
*4	<p>Examinee reopens MU-V-36 using pushbutton on CC, and verifies MU-V-37 open.</p> <p>NOTE: It is critical that the Examinee does not operate MU Pump for > 30 seconds with flow < 40 gpm (OP 1104-2, Makeup and Purification System).</p>	<p>Examinee depresses MU-V-36 open pushbutton. Indications that MU-V-36 opens:</p> <ul style="list-style-type: none"> Red OPEN pushbutton lamp illuminates. Green CLOSE pushbutton lamp de-energizes. <p>Examinee verifies MU-V-37 is open. Indications that MU-V-37 is open:</p> <ul style="list-style-type: none"> Red OPEN pushbutton lamp is de-energized. Green CLOSE pushbutton lamp is illuminated. 	
*5	Examinee continues operation of MU-P-1A, since it is supplying RCS makeup and RCP seal injection flow.	<p>MU-P-1A is NOT secured as indicated by no change in status on CC:</p> <ul style="list-style-type: none"> Red breaker closed light remains illuminated. Green breaker open lamp remains de-energized. 	

#	STEP	STANDARD	S/U
*6	Examinee closes MU-V-16A and MU-V-16B using pushbuttons on CC, to terminate HPI flow as indicated on CC. NOTE: JPM may be terminated if the reactor trips due to high RCS pressure.	MU-V-16A and MU-V-16B are closed. Indications on CC pushbuttons: <ul style="list-style-type: none"> • Green CLOSE lamps are energized. • Red OPEN lamps are de-energized. Reactor trip on high RCS pressure constitutes a JPM failure.	
*7	Examinee verifies MU-V-12 open, and then closes MU-V-14A.	MU-V-12 is verified open by observation of Appendix R sticker applied to the control console at MU-V-12 OPEN/CLOSE pushbuttons. MU-V-14A is closed by depressing the CLOSE pushbutton on CC. Indications that MU-V-14A is closed: Status at CC pushbuttons: <ul style="list-style-type: none"> • Green CLOSE lamp is illuminated. • Red OPEN lamp is de-energized. 	
8	Reset 27/86 lockout relays if actuated. NOTE: 27/86 relays do not actuate, therefore they do not need to be reset.	Examinee identifies that the 27/86 lockout relays have not actuated and do not need to be reset. Indications that 27/86 lockout relays have not actuated: Status at PCR status lamps: <ul style="list-style-type: none"> • White lamp for Bus 1P is de-energized. • White lamp for Bus 1P is de-energized. 	
CUE: As the Unit Supervisor, direct Examinee NOT to restore remaining remaining ES components.			

END TASK

TMI-1 OPERATOR TRAINING

JOB PERFORMANCE MEASURE

B.1.c

TASK TITLE: RESPOND TO HIGH PRESSURE INJECTION INITIATION (ALT PATH – MU-V-14A FAILS TO OPEN).

TASK NUMBER: 0004C240501 Respond to a large break LOCA.
TIF: 4.21

K/A REFERENCE: System: Emergency Core Cooling System (006)
K/A: A2.02 (Page 3.3-5)
Ability to (a) predict the impacts of the following malfunctions or operations on the ECCS, and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: loss of flow path.
Rating (RO/SRO): 3.9/4.3

POSITION: SRO RO NLO

EVALUATION METHOD: PERFORM SIMULATE

EVALUATION LOCATION: SIMULATOR IN-PLANT CONTROL ROOM OTHER

TASK STANDARDS: Using OP-TM-EOP-010 Guide 4, HPI Failure, examinee bypasses Channel 'A' ESAS signals, stops MU-P-1A.

APPROXIMATE COMPLETION TIME: 15minutes

TIME-CRITICAL TASK COMPLETION TIME: NA minutes

REQUIRED TOOLS OR MATERIALS: OP-TM-EOP-010 Abnormal Transients Rules, Guides and Graphs.

REFERENCES: OP-TM-EOP-010 Abnormal Transients Rules, Guides and Graphs.
OP 1105-3, Engineered Safeguards Actuation, pages 10 through 14, Rev. 43.

ALTERNATE PATH JPM? YES

SIMULATOR SETUP:

INITIALIZATION:

1. Select IC-16 - 100% hot full power (MOC)
2. Activate malfunctions and DI override listed below.
3. Trip all 4 RCPs when RCS subcooled margin is lost.
4. Make snapshot when all ES valves have traveled, including 4# ES.

EVENT TRIGGERS: N/A

MALFUNCTIONS:

MU24A – Makeup Valve ES Alignment Failure (MU-V-14A).
TH05 at 0.3%.

REMOTE FUNCTIONS: N/A

OVERRIDES:

02A5S59-ZDIPBOMUV14A (OFF)– Overrides MU-V-14A OPEN Pushbutton DI (false).

MONITOR: N/A

READ TO STUDENT

When I tell you to begin, you are to **RESPOND TO AN ECCS ACTUATION**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps as if you were actually performing the task.

INITIAL CONDITIONS:

- The reactor was manually tripped from full power.
- There is a LOCA inside the RB
- ESAS has received an automatically actuation signal.

INITIATING CUE:

The Unit Supervisor directs you to verify and respond to the ECCS actuation.

ARE THERE ANY QUESTIONS?

TIME CRITICAL: NO

JPM INSTRUCTION SHEET

DIRECTIONS TO STUDENT:

When I tell you to begin, you are to **RESPOND TO AN ECCS ACTUATION**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps as if you were actually performing the task.

INITIAL CONDITIONS:

- The reactor was manually tripped from full power.
- There is a LOCA inside the RB
- ESAS has received an automatically actuation signal.

INITIATING CUE:

The Unit Supervisor directs you to verify and respond to the ECCS actuation.

TIME CRITICAL: NO

*Denotes Critical Elements
#Denotes Sequential Step

#	STEP	STANDARD	S/U
NOTE: Examinee shall use laminated EOP GUIDES located at the console as needed.			
NOTE: Since turnover was AUTOMATIC ESAS signal was received, Examinee may depress MANUAL ESAS actuation pushbuttons. This will require FURTHER signal bypassing in step 6 below.			
*1	Examinee diagnoses MU-V-14A is closed.	OS-24 Section 4.6.1 If a safety system has or should have actuated, then ensure that all components are in the required position or state.	
CUE: If requested, concur with attempt to manually open MU-V-14A.			
2	Examinee announces failure of MU-V-14A to automatically open, and may request CRS concurrence to attempt to manually open MU-V-14A.	OS-24 Section 4.6.1 If a safety system has or should have actuated, then ensure that all components are in the required position or state.	
3	Examinee depresses MU-V-14A OPEN pushbutton to attempt to open the valve.	Examinee depresses MU-V-14A open pushbutton and recognizes that the valve does not open (still indicates closed).	
4	Examinee requests US concurrence to implement Guide 4, HPI Failure.	Examinee requests US concurrence to implement Guide 4, HPI Failure. CUE: When requested, concur with implementation of Guide 4, HPI Failure.	
CUE: If Guide 4 NOT requested, ask Examinee for recommendations. Do NOT allow A.O. (Aux Operator) to go locally to operate valve, if requested by examinee. Recommendations must be Control Room actions.			
5	Examinee obtains a copy of OP-TM-EOP-010 Guide 4, HPI Failure.	Examinee obtains a copy of OP-TM-EOP-010 Guide 4, HPI Failure.	
NOTE: ESAS signal bypass/defeat steps are delineated in 1105-3 (see attached), however it is a management EXPECTATION that examinees can defeat/bypass ESAS signals from memory.			
*6	Examinee bypasses/defeats Channel 'A' ESAS signals applicable to MU-P-1A. NOTE: Examinee may also bypass/defeat Train 'B' actuation, but there will no effect on plant response.	Examinee depresses all 3 'A' Train 1600 psig ESAS bypass pushbuttons. • Channel Bypassed lights are illuminated. If RCS pressure <950 psig, Examinee depresses all 3 'A' Train 500 psig ESAS bypass pushbuttons. • Channel Bypassed lights are illuminated. Examinee depresses 2 'A' Train 4 psig ESAS DEFEAT pushbuttons. • Channel DEFEAT lights are illuminated.	
*7	Examinee stops MU-P-1A.	Examinee turns MU-P-1A control switch to stop position, and verifies breaker status lights: green light illuminated, red light de-energized.	
*8	Examinee verifies adequate HPI flow exists, using Guide 4 Figure.	Examinee determines that adequate HPI flow exists, since flow is greater than the lower flow limit indicated on Guide 4 figure.	
9	Examinee announces completion of Guide 4, HPI Failure and returns card to holder.	Examinee announces completion of Guide 4, HPI Failure and returns card to holder.	
Note: Task may be terminated when Guide 4 actions are completed.			

END TASK

TMI-1 OPERATOR TRAINING

JOB PERFORMANCE MEASURE

B.1.d

TASK TITLE: RESPOND TO HIGH PRESSURE INJECTION INITIATION (ALT PATH – DH-V-6B FAILS TO OPEN).

TASK NUMBER: 000C240501 Respond to a large break LOCA.
TIF: 4.21

K/A REFERENCE: System: Emergency Core Cooling System (006)
K/A: A4.05 (Page 3.3-5)
Ability to manually operate and/or monitor in the control room:
Transfer of ECCS flow paths prior to recirculation.
Rating(RO/SRO): 3.9/3.8

POSITION: SRO RO NLO

EVALUATION METHOD: PERFORM SIMULATE

EVALUATION LOCATION: SIMULATOR IN-PLANT CONTROL ROOM OTHER

TASK STANDARDS: Using OP-TM-EOP-010 Guide 3, LPI Failure, examinee stops DH-P-1B, directs an Auxiliary Operator to open DH-V-38A and DH-V-38B, and then maximizes LPI flow (≤ 3000 gpm) while balancing flow from DH-P-1A between the two LPI trains.

APPROXIMATE COMPLETION TIME: 25 minutes

TIME-CRITICAL TASK COMPLETION TIME: NA minutes

REQUIRED TOOLS OR MATERIALS: OP-TM-EOP-010 Abnormal Transients Rules, Guides and Graphs.

REFERENCES: OP-TM-EOP-010 Abnormal Transients Rules, Guides and Graphs:

- Rule 2, HPI/LPI Throttling.
- Guide 21, Transfer to RB Sump Recirculation.
- Guide 3, LPI Failure

ALTERNATE PATH JPM? YES

SIMULATOR SETUP:

INITIALIZATION:

1. Select IC-16 - 100% hot full power (MOC)
2. Activate malfunctions and DI override listed below.
3. Trip all 4 RCPs.
4. Allow BWST level to lower to 9.5 feet, sump level $>32 - 63$ ".
5. MAY NEED to use temporary stickers to give desired **RB sump and BWST LEVELS** (for the sake of setup time compression)
6. When levels as desired: defeat ESAS and throttle LPI flow to <3000 gpm.
7. Then PTL all MUPs.

EVENT TRIGGERS: N/A

MALFUNCTIONS:

TH04A at 95%, ramped over 10 seconds (LOCA at A Hot Leg Nozzle.).

REMOTE FUNCTIONS: DHR14 will be used to open DH-V-38A and DH-V-38B during this exercise.

OVERRIDES:

03A6S44-ZDIPBODHV6B (OFF)– Overrides DH-V-6B OPEN Pushbutton DI (false).

MONITOR: N/A

READ TO EXAMINEE

When I tell you to begin, you are to perform procedural actions to **TRANSFER TO RB SUMP RECIRCULATION**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps as if you were actually performing the task.

INITIAL CONDITIONS:

The reactor was manually tripped from full power.
There is a LOCA inside the RB.
ESAS has automatically actuated and is defeated/bypassed.
LPI flows have been throttled.
HPI flow has been terminated.
Core Flood tanks have discharged into the reactor vessel.
BWST level is approaching 9.5 feet.
RB Flood level is > 32 inches.
Both Reactor Building Spray Pumps BS-P-1A/B are operating.

INITIATING CUE:

The Unit Supervisor directs you to perform procedural actions to transfer to RB Sump recirculation, in accordance with OP-TM-EOP-010 Guide 21, Transfer to RB Sump Recirculation.

ARE THERE ANY QUESTIONS?

TIME CRITICAL: NO

JPM INSTRUCTION SHEET

DIRECTIONS TO EXAMINEE:

When I tell you to begin, you are to perform procedural actions to **TRANSFER TO RB SUMP RECIRCULATION**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps as if you were actually performing the task.

INITIAL CONDITIONS:

The reactor was manually tripped from full power.
There is a LOCA inside the RB.
ESAS has automatically actuated and is defeated/bypassed.
LPI flows have been throttled.
HPI flow has been terminated.
Core Flood tanks have discharged into the reactor vessel.
BWST level is approaching 9.5 feet.
RB Flood level is > 32 inches.
Both Reactor Building Spray Pumps BS-P-1A/B are operating.

INITIATING CUE:

The Unit Supervisor directs you to perform procedural actions to transfer to RB Sump recirculation, in accordance with OP-TM-EOP-010 Guide 21, Transfer to RB Sump Recirculation.

TIME CRITICAL: NO

*Denotes Critical Elements
#Denotes Sequential Step

#	STEP	STANDARD	S/U
<p>NOTE: Examinee is expected to use the laminated EOP Rules/Guides located at the console throughout JPM. Attached rules/guides are for examiner reference only.</p> <p>NOTE: Bypassing/defeating ESAS signals is delineated in 1103-5, however it is management EXPECTATION that examinees can perform this action from memory.</p>			
1	Examinee obtains a copy of OP-TM-EOP-010 Guide 21, Transfer to RB Sump Recirculation.	Examinee obtains a copy of OP-TM-EOP-010 Guide 21, Transfer to RB Sump Recirculation.	
2	Examinee announces initiation of RB Sump Recirculation over the plant page and radio.	Examinee announces initiation of RB Sump Recirculation over the plant page and radio in accordance with Step 1 of Guide 21, Transfer to RB Sump Recirculation.	
3	Examinee verifies RB Flood level >32 inches.	Flood level indicator con Console Right (CR) indicates >32 inches.	
*4	Examinee attempts to open DH-V-6A and DH-V-6B.	<p>Examinee depresses OPEN pushbuttons for DH-V-6A and DH-V-6B to open the valves.</p> <p>Indications that DH-V-6A is open.</p> <p>Indications on CC pushbuttons:</p> <ul style="list-style-type: none"> • Red OPEN pushbutton lamp is illuminated. • Green CLOSE pushbutton lamp is de-energized. <p>Indications that DH-V-6B is closed.</p> <p>Indications on CR pushbuttons:</p> <ul style="list-style-type: none"> • Green CLOSE pushbutton lamp is illuminated. • Red OPEN pushbutton lamp is de-energized. 	
*5	Examinee diagnoses DH-V-6B will not open.	<p>Indications that DH-V-6B is closed.</p> <p>Indications on CR pushbuttons:</p> <ul style="list-style-type: none"> • Green CLOSE pushbutton lamp is illuminated. • Red OPEN pushbutton lamp is de-energized. 	
6	Examinee announces inability to open DH-V-6B, and requirement to perform "Response Not Obtained Actions" for this equipment failure.	<p>Examinee announces failure of DH-V-6B to open, and requests US concurrence to stop DH-P-1B and to initiate Guide 3, LPI Failure. This is required by Step 3 (remedial action) of Guide 21, Transfer to RB Sump Recirculation.</p> <p>CUE: As Unit Supervisor, concur that DH-P-1B should be stopped, and Guide 3, LPI Failure, should be implemented.</p>	
<p>NOTE: Although not stated in the procedure step about to be implemented, Examinee should bypass/defeat all Train 'B' ES signals prior to stopping DH-P-1B. In fact, the Examinee will need to bypass/defeat Train 'A' ES signals prior to operating DH-V-4A later in this exercise.</p> <p>CUE: WHEN the Examinee requests permission to bypass/defeat ES signals, as Unit Supervisor, give examinee permission to bypass/defeat ESAS.</p>			

#	STEP	STANDARD	S/U
*7	Using Guide 21, Transfer to RB Sump Recirculation, Examinee stops DH-P-1B in accordance with Response Not Obtained column.	Examinee rotates DH-P-1B control switch (CR) counter-clockwise to stop the pump. Indications that DH-P-1B is stopped: <ul style="list-style-type: none"> • Green breaker closed lamp is illuminated. • Red breaker closed lamp is de-energized. 	
8	Examinee requests US concurrence to initiate Guide 3, LPI Failure. Examinee obtains a copy of OP-TM-EOP-010 Guide 3, LPI Failure.	Examinee US concurrence to initiate Guide 3, LPI Failure. This is required by Step 3 (remedial action) of Guide 21, Transfer to RB Sump Recirculation. CUE: As Unit Supervisor, concur that Guide 3, LPI Failure, should be implemented.	
*9	In accordance with Guide 3, LPI Failure, Examinee closes DH-V-4B.	Examinee depresses DH-V-4B CLOSE pushbutton on CR. Indications that DH-V-4B is closed: <ul style="list-style-type: none"> • Green CLOSE pushbutton lamp is illuminated. • Red OPEN pushbutton lamp is de-energized. 	
*10	Examinee asks if either DH-V-38A or DH-V-38B is inaccessible.	Examinee asks if either DH-V-38A or DH-V-38B is inaccessible to determine procedure flow path in accordance with Guide 3, step 2.0.2. CUE: DH-V-38A and DH-V-38B are both accessible at this time.	
*11	Examinee directs an Auxiliary Operator to open DH-V-38A and DH-V-38B. NOTE: Expected response time is in excess of 10 minutes. Therefore, time compression will be used for this in-plant operation to expedite the examination.	Examinee directs an Auxiliary Operator to open DH-V-38A and DH-V-38B in accordance with Step 4 of Section 2.0 in Guide 3, LPI Failure.	
12	Examinee announces applicability of OP-TM-EOP-010 Rule 2, HPI/LPI Throttling, removes the card from the holder, and obtains US concurrence to perform implement the rule during the pending operations.	OS-24 Section 4.1.6.B Rules and Guides The following sequence is used when Rule based action is required: <ol style="list-style-type: none"> 1. Announce the applicable rule. 2. Pull the applicable rule card. 3. The US provides concurrence. 4. Perform the Rule based actions. 5. Report completion of Rule based action and return card to holder. 	
<p>NOTE: If not performed earlier, Train 'A' ES signals need to be bypassed/defeated to enable control of DH-V-4A.</p> <p>CUE: WHEN the Examinee requests permission to bypass/defeat Train 'A' ES signals, as Unit Supervisor, give examinee permission to bypass/defeat ESAS.</p>			

#	STEP	STANDARD	S/U
*13	Following report that DH-V-38A and DH-V-38B have been opened, examinee uses Rule 2 and Guide 3 to balance LPI flow between the two trains by throttling open DH-V-4B and throttling closed DH-V-4A within the flow limits of Rule 2, HPI/LPI Throttling.	<ul style="list-style-type: none"> • Operate DH-V-4A and DH-V-4B in accordance with Step 5 of Section 2.0 in Guide 3, LPI Failure. • THROTTLE LPI flow to maximum controllable ≤ 3300 gpm in accordance with Section C of Rule 2, HPI/LPI Throttling. <p style="text-align: center;">THEN</p> <ul style="list-style-type: none"> • (Since BS pump is operating) THROTTLE LPI flow to maximum controllable ≤ 3000 gpm in accordance with Section C of Rule 2, HPI/LPI Throttling 	
14	Examinee announces completion of Guide 3 and Rule 2, and returns Guide 3 and Rule 2 to the holders.	OS-24 Section 4.1.6.B Rules and Guides as described above.	
*15	Examinee returns to Guide 21, Transfer to RB Sump Recirculation (Step 4), to continue suction transfer.	<p>Examinee returns to Guide 21, Transfer to RB Sump Recirculation (Step 4), to continue suction transfer.</p> <p>NOTE: Step 3 (remedial action) of Guide 21, Transfer to RB Sump Recirculation, requires the operator to INITIATE Guide 3.</p> <p>OS-24 Section 4.1.2.B INITIATE: Begin the action described (steps or procedure) and continue with the controlling procedure in parallel.</p>	
<p>NOTE: This JPM may be terminated at this point if BWST level is not lowering towards 6.33 feet. Once DH-V-6A is opened suction flow from the RB Sump significantly reduces BWST level draw-down rate.</p>			
16	When BWST level reaches 6.33 feet or RB Flood level >56 inches, Examinee closes DH-V-5A.	<p>Examinee depresses DH-V-5A CLOSE pushbutton on CC.</p> <p>Indications that DH-V-5A is closed:</p> <ul style="list-style-type: none"> • Green CLOSE pushbutton lamp is illuminated. • Red OPEN pushbutton lamp is de-energized. 	
<p>Examiner: If not already done, terminate this JPM when Guide 21, step 4.1 (#16 above) is complete.</p>			

END TASK

JPM CHANGE HISTORY PAGE

REVISION	DATE	REFERENCE TITLE	DESCRIPTION (Include AI # if Appropriate)
0	04/12/03	OP-TM-EOP-010 Abnormal Transients Rules, Guides and Graphs	
1	05/12/03		per NRC validation comments

TMI-1 OPERATOR TRAINING

JOB PERFORMANCE MEASURE

B.1.e

TASK TITLE: Perform Turbine Valve Testing on a CIV (Combined Intermediate Valve).

TASK NUMBER: 0450040201 During power ops, perform main turbine valve testing.
TIF: 2.90

K/A REFERENCE: System: Steam Generator System (035)
K/A: 2.1.23
Ability to perform specific system and integrated plant procedures during all modes of plant operation.
Rating(RO/SRO): 3.9/4.0

POSITION: SRO RO NLO

EVALUATION METHOD: PERFORM SIMULATE

EVALUATION LOCATION: SIMULATOR IN-PLANT CONTROL ROOM OTHER

TASK STANDARDS: TG-CIV-1 tested satisfactorily IAW procedure.

APPROXIMATE COMPLETION TIME: 15 minutes.

TIME-CRITICAL TASK COMPLETION TIME: NA minutes

REQUIRED TOOLS OR MATERIALS: 1106-1 Rev 109 Appendix C section 2.0 with steps 2.1.1, 2.1.2, 2.1.5, 2.1.7, 2.1.8, 2.2.1.1, 2.2.1.2, and 2.2.1.5 N/A'd; steps 2.2.1.3 and 2.2.1.4 signed off.

REFERENCES:
1106-1 Rev 109, Appendix C, section 2.1 and 2.2.

ALTERNATE PATH JPM? NO

SIMULATOR SETUP:

INITIALIZATION:

Initialize the Trainer to IC16 100% power, ICS in automatic, Xenon equilibrium, BOC.
Reduce power to 90%
Start Second EHC pump (both running)
When stable, place ICS SG/Rx Demand to HAND.
Make Snapshot after plant stabilizes.

EVENT TRIGGERS: N/A

MALFUNCTIONS: None

REMOTE FUNCTIONS: N/A

OVERRIDES: N/A

MONITOR: N/A

READ TO STUDENT

When I tell you to begin, you are to **PERFORM Turbine Valve Testing on Combined Intermediate Valve TG-CIV-1 ONLY IAW 1106-1 Appendix C**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps as if you were actually performing the task.

INITIAL CONDITIONS:

Reactor power is 90%, with ICS in Manual on SG/Rx Demand only.
There are NO maintenance activities in progress.
Turbine valve testing preparations have been made IAW 1106-1 Appendix C.

INITIATING CUE:

The Unit Supervisor directs you to **PERFORM Turbine Valve Testing on Combined Intermediate Valve TG-CIV-1 ONLY IAW 1106-1 Appendix C, section 2.2**. Do NOT test any other valves.

(Hand examinee copy of 1106-1 Rev 109 Appendix C section 2.0 with steps 2.1.1, 2.1.2, 2.1.5, 2.1.7, 2.1.8, 2.2.1.1, 2.2.1.2, and 2.2.1.5 N/A'd; steps 2.2.1.3 and 2.2.1.4 signed off.)

ARE THERE ANY QUESTIONS?

TIME CRITICAL: NO

JPM INSTRUCTION SHEET

DIRECTIONS TO STUDENT:

When I tell you to begin, you are to **PERFORM Turbine Valve Testing on Combined Intermediate Valve TG-CIV-1 ONLY IAW 1106-1 Appendix C**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps as if you were actually performing the task.

INITIAL CONDITIONS:

Reactor power is 90%, with ICS in Manual on SG/Rx Demand only.

There are NO maintenance activities in progress.

Turbine valve testing preparations have been made IAW 1106-1 Appendix C.

INITIATING CUE:

The Unit Supervisor directs you to **PERFORM Turbine Valve Testing on Combined Intermediate Valve TG-CIV-1 ONLY IAW 1106-1 Appendix C, section 2.2. Do NOT test any other valves.**

(Obtain copy of 1106-1 Rev 109 Appendix C section 2.0 with steps 2.1.1, 2.1.2, 2.1.5, 2.1.7, 2.1.8, 2.2.1.1, 2.2.1.2, and 2.2.1.5 N/A'd; steps 2.2.1.3 and 2.2.1.4 signed off.)

ARE THERE ANY QUESTIONS?

TIME CRITICAL: NO

*Denotes Critical Elements

#Denotes Sequential Step

#	STEP	STANDARD	S/U
1	Examinee reviews procedure precautions and steps.	Procedure reviewed by examinee CUE: As examinee reviews procedure, respond as needed for clarification, i.e. ENDPOINT on testing is step 2.2.2.12.	
<p>NOTE: The following steps are performed from the Digital Turbine Control Station DTCS on console left. Manipulations may be done via touch screen, roller/mouse pad, or keyboard, OR ANY combination of same. Delays between selection and execution of commands may cause no action, but is recoverable via re-selection and timely execution.</p> <p>NOTE: Examinee may require local observers at CIV-1 in communication with Control Room. ICO roleplay as required.</p>			
2	From Main Display screen, EXIT to Main Menu Page #1.	Examinee gets Main Menu Page #1 on the screen.	
# 3	From Main Menu page #1, select screen #23 Valve Stroke Test Prereqs.	Examinee gets #23 Valve Stroke Test Prereqs on Main Menu Page #1.	
# 4	Select FULL STROKE test and execute command on screen #23.	Examinee executes FULL STROKE test.	
# 5	Exit to Main Menu Page #1 and select VALVE STROKE TESTING under #23.	Examinee selects VALVE STROKE TESTING on Main Menu Page #1.	
*# 6	Select the desired CIV (Full Stroke) to be tested on the VALVE STROKE TESTING screen. (A plot/graph appears)	Examinee selects CIV-1 on the Valve Stroke Testing screen.	
7	On the TRIGGERED PLOT display, verify FULL_STROKE is a logic (1).	Examinee verifies Full Stroke logic (1) on the TRIGGERED PLOT display.	
8	Review steps 7 – 11 prior to performance.(PER PROCEDURE NOTE)	Examinee reviews procedure steps 7 – 11.	
*# 9	Initiate test by selecting START and execute command.	Examinee executes START command.	
# 10	Observe plot for smooth stem stroking and FAST CLOSING of both valves (CIV is made up of IV Intercept Valve and ISV Intercept Stop Valve) <ul style="list-style-type: none"> note sharp drop in position indication in last 10% of travel. 	Examinee observes closing and FAST CLOSURE of CIV on plot. <ul style="list-style-type: none"> NOTE: Examinee MUST wait until both valves (IV and ISV) stroke before performing next step. NOTE: Examinee may request local observer report on CIV position/fast closure. ICO roleplay as required. 	
# *11	As soon as both valves are closed, select STOP to terminate test.	Examinee selects STOP (after IV and ISV close).	

#	STEP	STANDARD	S/U
# 12.	Verify valves then return to previous open position.	Examinee verifies CIV-1 open position. NOTE: Examinee may request local observer report on CIV open position. ICO roleplay as required.	
13	Once valves reopen, select MORE OPTIONS • THEN select SAVE IMAGE	Examinee selects MORE OPTIONS, then SAVE IMAGE.	
NOTE: Examinee should terminate this JPM at this time.			

END TASK

TMI-1 OPERATOR TRAINING

JOB PERFORMANCE MEASURE

B.1.f

TASK TITLE: RETURN REACTOR BUILDING EMERGENCY COOLING SYSTEM TO ENGINEERED SAFEGUARDS STANDBY.

TASK NUMBER: 000C240501 Start up the reactor building recirculation system.
TIF: 2.72

K/A REFERENCE: System: Containment Cooling System (CCW) (022)
K/A: A4.01 (Page 3.5-7)
Ability to manually operate and/or monitor in the control room:
CCS fans.
Rating(RO/SRO): 3.6/3.6

POSITION: SRO RO NLO

EVALUATION METHOD: PERFORM SIMULATE

EVALUATION LOCATION: SIMULATOR IN-PLANT CONTROL ROOM OTHER

TASK STANDARDS: Reactor Building Emergency Cooling System is returned to ES standby condition in accordance with OP-TM-534-901, RB Emergency Cooling Operations.

APPROXIMATE COMPLETION TIME: 20 minutes

TIME-CRITICAL TASK COMPLETION TIME: NA minutes

REQUIRED TOOLS OR MATERIALS: OP-TM-534-901, RB Emergency Cooling Operations, Rev. 0.

REFERENCES: OP-TM-534-901, RB Emergency Cooling Operations, Rev. 0.

ALTERNATE PATH JPM? NO

SIMULATOR SETUP:

INITIALIZATION:

1. Select IC-16 - 100% hot full power (MOC)
2. Utilize Section 4.1 of OP-TM-534-901, RB Emergency Cooling Operations, to manually start and operate the RB Emergency Cooling System, operating both RR-P-1A and RR-P-1B pumps and all three AH-E-1-A/B/C fans (slow speed).

EVENT TRIGGERS: N/A

MALFUNCTIONS: N/A

REMOTE FUNCTIONS:

CCR32 – NS-V-85

OVERRIDES: N/A

MONITOR: N/A

READ TO STUDENT

When I tell you to begin, you are to perform procedural actions to **RETURN REACTOR BUILDING EMERGENCY COOLING SYSTEM TO ES STANDBY**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps as if you were actually performing the task.

INITIAL CONDITIONS:

Reactor power is 100%, with ICS in full automatic.

A small Main Steam System leak inside the RB was isolated one hour ago.

RB Emergency Cooling was manually initiated to limit RB pressure and temperature.

- Both RB Emergency Cooling pumps (RR-P-1A/B) are operating.
- All three AH-E-1A/B/C fans running in slow speed.

RB ambient conditions have now been returned to normal.

INITIATING CUE:

The Shift Manager directs you to perform procedural actions to **RETURN REACTOR BUILDING EMERGENCY COOLING SYSTEM TO ES STANDBY**, in accordance with Section 5.0 of OP-TM-534-901, RB Emergency Cooling Operations.

ARE THERE ANY QUESTIONS?

TIME CRITICAL: NO

JPM INSTRUCTION SHEET

DIRECTIONS TO STUDENT:

When I tell you to begin, you are to perform procedural actions to **RETURN REACTOR BUILDING EMERGENCY COOLING SYSTEM TO ES STANDBY**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps as if you were actually performing the task.

INITIAL CONDITIONS:

Reactor power is 100%, with ICS in full automatic.

A small Main Steam System leak inside the RB was isolated one hour ago.

RB Emergency Cooling was manually initiated to limit RB pressure and temperature.

- Both RB Emergency Cooling pumps (RR-P-1A/B) are operating.
- All three AH-E-1A/B/C fans running in slow speed.

RB ambient conditions have now been returned to normal.

INITIATING CUE:

The Shift Manager directs you to perform procedural actions to **RETURN REACTOR BUILDING EMERGENCY COOLING SYSTEM TO ES STANDBY**, in accordance with Section 5.0 of OP-TM-534-901, RB Emergency Cooling Operations.

TIME CRITICAL: NO

*Denotes Critical Elements
#Denotes Sequential Step

#	STEP	STANDARD	S/U
Cue: Provide Examinee with a copy of OP-TM-534-901, RB Emergency Cooling Operations.			
1	<p>Examinee verifies RB Pressure < 1.0 psig.</p> <p>NOTE: Procedure does not specify how to verify RB Pressure <1.0 psig. Examinee may check reactor building pressure indicators on Panel PCL, PLF, or CR, or even use Process Computer indications (points A0101-0103, A0455, A0457, A0473, A0928, A0929, A0930, and A0931), or SPDS/P-T Plot .</p>	<ul style="list-style-type: none"> RB pressure is < 1.0 psig, as indicated on RX BLDG PRESSURE PI-1186 on Panel PCL. <p style="text-align: center;">or</p> <ul style="list-style-type: none"> RB pressure is <1.0 psig at Plant Computer (points A0101-0103, A0455, A0457, A0473, A0928, A0929, A0930, and A0931) or SPDS/P-T Plot. 	
2	<p>Examinee verifies RB temperatures <130°F.</p> <p>NOTE: Procedure does not specify how to verify RB temperatures <130°F. Examinee may check REACTOR BUILDING AMBIENT TEMPERATURE RECORDER TR-655 on Panel PLF, or Process Computer indications (points A0538, A0539, A0540, and A0573).</p>	<ul style="list-style-type: none"> All RB temperatures indicate < 130°F on REACTOR BUILDING AMBIENT TEMPERATURE RECORDER TR-655 on Panel PLF. <p style="text-align: center;">or</p> <ul style="list-style-type: none"> All RB temperatures indicate < 130°F on Process Computer points A0538, A0539, A0540, and A0573. 	
3	<p>Examinee asks if E-Plan was activated.</p> <p>CUE: E-Plan was NOT activated.</p>	Examinee acknowledges E-Plan was not activated.	
4	Examinee stops RR-P-1A, and then places the control switch in Normal After Stop position.	<ul style="list-style-type: none"> RR-P-1A is shutdown, as indicated by Green light illuminated, Red light de-energized, and zero amps indicated on CC. Control switch is in Normal After Stop, as indicated by Green Flag in control switch window on CC. 	
5	Examinee stops RR-P-1B, and then places the control switch in Normal After Stop position.	<ul style="list-style-type: none"> RR-P-1B is shutdown, as indicated by Green light illuminated, Red light de-energized, and zero amps indicated on CR. Control switch is in Normal After Stop, as indicated by Green Flag in control switch window on CR. 	
6	Examinee closes RR-V-1A.	RR-V-1A is closed, as indicated by Green light illuminated and Red light de-energized on CC.	
7	Examinee closes RR-V-1B.	RR-V-1B is closed, as indicated by Green light illuminated and Red light de-energized on CR.	
8	Examinee closes RR-V-4A.	RR-V-4A is closed, as indicated by Green light illuminated and Red light de-energized on CR.	
9	Examinee closes RR-V-4B.	RR-V-4B is closed, as indicated by Green light illuminated and Red light de-energized on CR.	
10	Examinee closes RR-V-4C.	RR-V-4C is closed, as indicated by Green light illuminated and Red light de-energized on CR.	

#	STEP	STANDARD	S/U
11	Examinee closes RR-V-4D.	RR-V-4D is closed, as indicated by Green light illuminated and Red light de-energized on CR.	
12	Examinee closes RR-V-3A.	RR-V-3A is closed, as indicated by Green light illuminated and Red light de-energized on CR.	
13	Examinee closes RR-V-3B.	RR-V-3B is closed, as indicated by Green light illuminated and Red light de-energized on CR.	
14	Examinee closes RR-V-3C.	RR-V-3C is closed, as indicated by Green light illuminated and Red light de-energized on CR.	
15	Examinee Stops AH-E-1A, and then starts AH-E-1A in fast speed.	<ul style="list-style-type: none"> AH-E-1A is stopped, as indicated by Green light illuminated and both Red lights de-energized on CR. AH-E-1A is operating in fast speed, as indicated by extreme right Red light illuminated, with center Red and left Green lights de-energized, on CR. 	
16	Examinee Stops AH-E-1B, and then starts AH-E-1B in fast speed.	<ul style="list-style-type: none"> AH-E-1B is stopped, as indicated by Green light illuminated and both Red lights de-energized on CR. AH-E-1B is operating in fast speed, as indicated by extreme right Red light illuminated, with center Red and left Green lights de-energized, on CR. 	
17	Examinee Stops AH-E-1C, and then starts AH-E-1C in fast speed.	<ul style="list-style-type: none"> AH-E-1C is stopped, as indicated by Green light illuminated and both Red lights de-energized on CR. AH-E-1C is operating in fast speed, as indicated by extreme right Red light illuminated, with center Red and left Green lights de-energized, on CR. 	
18	Hang an EST (Equipment Status Tag) on NS-V-84 (or 85).	CUE: When examinee indicates need to hang EST, inform examinee that EST is hung.	
19	Notify Chemistry manager to notify PADER.	CUE: When examinee indicates need to call Chemistry manager, inform examinee that Chemistry manager has been notified.	
NOTE: The Examinee should terminate this JPM at this time.			

END TASK

TMI-1 OPERATOR TRAINING

JOB PERFORMANCE MEASURE

B.1.g

TASK TITLE: EMERGENCY DIESEL GENERATOR FAILS TO AUTO LOAD ON A BLACKOUT

TASK NUMBER: 0640030101
Load an emergency diesel generator.
TIF: 2.63

K/A REFERENCE: System: 064
K/A: A4.06
Rating: 3.9/3.9

POSITION: SRO RO NLO

EVALUATION METHOD: PERFORM SIMULATE

EVALUATION LOCATION: SIMULATOR IN-PLANT CONTROL ROOM OTHER

TASK STANDARDS: EG-Y-1B output breaker, G11-02, is closed and supplying power to the 1E 4160V Bus with voltage maintained between 4.1 and 4.15kV.

APPROXIMATE COMPLETION TIME: 10 minutes

TIME-CRITICAL TASK COMPLETION TIME: NA

REQUIRED TOOLS OR MATERIALS: OP-TM-861-902, Diesel Generator EG-Y-1B Emergency Operations, Rev. 2.

REFERENCES: OP-TM-EOP-001, Reactor Trip, Step 3.7, page 5, Rev 2.
OP-TM-AOP-020, Loss of Station Power, Step 3.2, page 1, Rev. 0.
OP-TM-861-902, Diesel Generator EG-Y-1B Emergency Operations, Rev. 2.

ALTERNATE PATH JPM? YES

SIMULATOR SETUP: 1. Trip the reactor and stabilize plant conditions.
2. Set EGR12 @ 0%.
3. Activate malfunction ED01.

INITIALIZATION: IC-16

EVENT TRIGGERS:

Event 1:
Event =ZDIDGSTRT(2)
Command = DMF EG01B.

MALFUNCTIONS: ED01 – Station Blackout.
EG01B – EG-Y-1B Fails to Start.

REMOTE FUNCTIONS: EGR12 @ 0%.

OVERRIDES: 03A6S56-ZDIG1102(3) NAP OFF.

MONITOR: NA.

READ TO STUDENT

When I tell you to begin, you are to **ENERGIZE THE 1E 4160V BUS**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

INITIAL CONDITIONS:

The plant was stable at 100% power when the following sequence of events occurred:

- The reactor tripped when a Loss of Off Site Power occurred.
- EG-Y-1B failed to automatically start and energize 1E 4160V Bus.

The Immediate Actions of OP-TM-EOP-001, Reactor Trip, have been completed, and OP-TM-AOP-020, Loss of Station Power, is being implemented.

INITIATING CUE:

The Unit Supervisor directs you to energize the 1E 4160V Bus using EG-Y-1B in accordance with OP-TM-861-902, section 4.1, Manually Start and Load EG-Y-1B onto 1E 4160V Bus.

ARE THERE ANY QUESTIONS?

TIME CRITICAL: NO.

JPM INSTRUCTION SHEET

DIRECTIONS TO STUDENT:

When I tell you to begin, you are to **ENERGIZE THE 1E 4160V BUS**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

INITIAL CONDITIONS:

The plant was stable at 100% power when the following sequence of events occurred:

- The reactor tripped when a Loss of Off Site Power occurred.
- EG-Y-1B failed to automatically start and energize 1E 4160V Bus.

The Immediate Actions of OP-TM-EOP-001, Reactor Trip, have been completed, and OP-TM-AOP-020, Loss of Station Power, is being implemented.

INITIATING CUE:

The Unit Supervisor directs you to energize the 1E 4160V Bus using EG-Y-1B in accordance with OP-TM-861-902, section 4.1, Manually Start and Load EG-Y-1B onto 1E 4160V Bus.

*Denotes Critical Elements
 #Denotes Sequential Step

#	STEP	STANDARD	S/U
1	Examinee may verify EG-Y-1B was in ES standby when the event began.	CUE: As Unit Supervisor, inform Examinee that EG-Y-1B was in ES Standby when the event began.	
2	Examinee verifies 1E 4160V bus is de-energized.	Examinee verifies 1E 4160V Bus is de-energized by checking that the 1E 4160V Bus Volt indication is at 0kV.	
3	Examinee ensures both feeder breakers (1SA-E2 and 1SB-E2) are open.	Examinee verifies 1SA-E2 breaker is open by observing breaker status lights: <ul style="list-style-type: none"> • Green breaker open lamp is illuminated. • Red breaker closed lamp is de-energized. • Amber breaker disagreement lamp is energized. Examinee verifies 1SB-E2 breaker is open by observing breaker status lights: <ul style="list-style-type: none"> • Green breaker open lamp is illuminated. • Red breaker closed lamp is de-energized. • Amber breaker disagreement lamp is de-energized. 	
*4	Examinee depresses 1B Diesel Generator Start pushbutton for approximately 8 seconds.	Examinee depresses 1B Diesel Generator Start PB for approximately 8 seconds. Diesel Generator starts, and accelerates to 900 rpm, as indicated at EG-Y-1B tachometer on CR.	
5	Examinee diagnoses generator voltage is NOT between 4.1 and 4.15 kV.	EG-Y-1A output voltage is less than 4.1kV. READY TO LOAD lamp is NOT LIT.	
NOTE: Next step is alternate path.			
*6	Examinee transfers EG-Y-1B exciter control to Manual and adjusts manual voltage rheostat to obtain 4.1 to 4.15 kV.	EG-Y-1B exciter is in Manual AND voltage is adjusted to obtain between 4.1 and 4.15 kV, as read on Bus Volts meter on CR.	
NOTE: Next step is alternate path.			
*7	Examinee manually closes G11-02 using control switch on CR.	G11-02 is manually closed using control switch on CR. Indications that G11-02 is closed: <ul style="list-style-type: none"> • Second half of overhead lighting illuminates. • Red breaker closed lamp is illuminated • Green breaker open lamp is de-energized. 	
NOTE: Examinee should terminate this JPM at this time.			

END TASK

JPM CHANGE HISTORY PAGE

REVISION	DATE	REFERENCE TITLE	DESCRIPTION (Include AI # if Appropriate)
0	6/03/2001	NA	Initial issue.
1	05/12/2003	OP-TM 861-902 Diesel Generator EG-Y-1B Emergency Operations	Revised JPM based upon new procedure.

In-Plant

JPMs

TMI-1 OPERATOR TRAINING

JOB PERFORMANCE MEASURE

B.2.a

**RESPOND TO A LOSS OF INSTRUMENT AIR
(ESTABLISH LOCAL MANUAL CONTROL, AND OPEN MU-V-26)**

TASK TITLE: RESPOND TO A LOSS OF INSTRUMENT AIR (ESTABLISH LOCAL MANUAL CONTROL,
AND OPEN MU-V-26)

TASK NUMBER: 0000650504 TIF: 3.94

K/A REFERENCE: System: 004
K/A: A2.11
Rating: 3.6 /4.2

POSITION: SRO RO NLO

EVALUATION METHOD: PERFORM SIMULATE

EVALUATION LOCATION: SIMULATOR IN-PLANT CONTROL ROOM OTHER

TASK STANDARDS: Local control of MU-V-26 has been established, and valve has been manually opened.
APPROXIMATE COMPLETION TIME: 10 minutes.

TIME-CRITICAL TASK COMPLETION TIME: N/A minutes.

REQUIRED TOOLS OR MATERIALS: OP 1104-2, Makeup and Purification System, page 113, Rev. 129.

REFERENCES: EP 1202-36 Loss of Instrument Air, Rev.31.
OP 1104-2 Makeup and Purification, page 113, Rev. 129.
302-660 Makeup And Purification System Flow Diagram.

ALTERNATE PATH JPM? NO

READ TO STUDENT

When I tell you to begin, you are to **ESTABLISH LOCAL MANUAL CONTROL, AND OPEN MU-V-26 AS DIRECTED BY THE UNIT SUPERVISOR.** Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

INITIAL CONDITIONS:

The Reactor is critical.
Reactor Coolant Pumps are operating.
Instrument Air pressure in the Auxiliary Building is reducing.

INITIATING CUE:

The Unit Supervisor directs you to:

1. Obtain a copy of OP 1104-2, Makeup and Purification System to be used to establish local manual control of RCP Seal Return Isolation Valve MU-V-26.
2. Report to MU-V-26 area and establish communication with the Control Room.

You are being provided a copy of the current procedure to be used to manually operate MU-V-26.

ARE THERE ANY QUESTIONS?

TIME CRITICAL: No

JPM INSTRUCTION SHEET

DIRECTIONS TO STUDENT:

When I tell you to begin, you are to **ESTABLISH LOCAL MANUAL CONTROL, AND OPEN MU-V-26 AS DIRECTED BY THE UNIT SUPERVISOR**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

INITIAL CONDITIONS:

The Reactor is critical.

Reactor Coolant Pumps are operating.

Instrument Air pressure in the Auxiliary Building is reducing.

INITIATING CUE:

The Unit Supervisor directs you to:

1. Obtain a copy of OP 1104-2, Makeup and Purification System to be used to establish local manual control of RCP Seal Return Isolation Valve MU-V-26.
2. Report to MU-V-26 area and establish communication with the Control Room.

You are being provided a copy of the current procedure to be used to manually operate MU-V-26.

ARE THERE ANY QUESTIONS?

TIME CRITICAL: No

*Denotes Critical Elements
#Denotes Sequential Step

#	STEP	STANDARD	S/U
CUE: Provide Examinee with copy of OP 1104-2, Makeup and Purification System, page 113, Rev. 129.			
1	Establish communications with the Control Room at MU-V-26 area.	<p>Communications is established with the Control Room.</p> <p>NOTE: Examinee will need to:</p> <ul style="list-style-type: none"> • Be signed on an RWP. • Obtain a ladder (ladder station located behind 1M 480 V bus, 305' AB near primary AO central) • Obtain HP support/permission to reach above 7' OR obtain appropriate anti-C gloves. <p>CUE: Inform the Examinee that communications have been established.</p>	
CUE: As the Unit Supervisor, direct the Examinee to establish local manual control, and open MU-V-26, using OP 1104-2, Makeup and Purification System, page 113, Rev. 129.			
CUE: Instruct the Examinee to read each step aloud prior to performing the actions.			
*2	Remove the pin from the clevis.	<p>Examinee removes the pin from the clevis.</p> <p>CUE: Inform the Examinee that he/she now has possession of the pin.</p>	
*3	Run handwheel down to align rod clevis holes with hole in the valve stem.	<p>Examinee turns manual handwheel clockwise to lower the rod clevis until the clevis holes are aligned with the hole in the valve stem.</p> <p>CUE: Inform the Examinee that the holes are aligned.</p>	
*4	Insert pin through rod clevis and valve stem.	<p>Examinee slides pin through the clevis and valve stem holes to engage the manual operator to the valve stem.</p> <p>CUE: Inform the Examinee that the Pin is inserted through the holes, and the manual operator is engaged.</p>	
NOTE: Examiner may ask examinee to identify how to determine MU-V-26 initial position. (ANSWER: Stem indication risen and/or control room indication)			
*5	Use hand wheel to open MU-V-26 as directed by the Unit Supervisor.	Examinee turns manual handwheel counter-clockwise to manually open MU-V-26,(stem rises).	
CUE: After local manual control has been established and MU-V-26 has been opened, inform the Examinee that the task is complete.			

END TASK

TMI-1 OPERATOR TRAINING

JOB PERFORMANCE MEASURE

B.2.b

**TRANSFER PRESSURIZER GROUP 8 HEATERS
FROM THE BOP POWER SUPPLY
TO THE 1P 480 VOLT ES SWITCHGEAR.**

TASK TITLE: TRANSFER PRESSURIZER GROUP 8 HEATERS FROM THE BOP POWER SUPPLY TO THE 1P 480 VOLT ES SWITCHGEAR.

TASK NUMBER: 010C010201 TIF: 3.59

K/A REFERENCE: System: 010
K/A: A2.01
Rating: 3.3/3.6

POSITION: SRO RO NLO

EVALUATION METHOD: PERFORM SIMULATE

EVALUATION LOCATION: SIMULATOR IN-PLANT CONTROL ROOM OTHER

TASK STANDARDS: Pressurizer Heater Group 8 is energized from the 1P 480V ES Bus (simulated).

APPROXIMATE COMPLETION TIME: 20 minutes.

TIME-CRITICAL TASK COMPLETION TIME: N/A minutes.

REQUIRED TOOLS OR MATERIALS:

OP-TM-220-902, Emergency Power Supply for Pressurizer Heaters, Rev. 0.
Pressurizer Heater Key Tags (4): K1, L1, L2, and L3.
Photographs (3): Disconnect Assembly Cabinet, Disconnect Device, Pzr Heater Breaker

REFERENCES: OP-TM-220-902, Emergency Power Supply for Pressurizer Heaters, Rev. 0.

ALTERNATE PATH JPM? NO

READ TO STUDENT

When I tell you to begin, you are to **TRANSFER PRESSURIZER GROUP 8 HEATERS FROM THE BOP POWER SUPPLY TO THE 1P 480V ES SWITCHGEAR** in accordance with OP-TM-220-902, Emergency Power Supply for Pressurizer Heaters. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

INITIAL CONDITIONS:

The Reactor is shutdown due to loss of off-site power.

Off-Site power is not expected to return in the near future.

The decision has been made to transfer Pressurizer Heater Group 8 power to the 1P 480V ES Bus.

INITIATING CUE:

The Unit Supervisor directs you to transfer Group 8 Pressurizer Heaters from the BOP power supply to the 1P 480V ES Bus, using OP-TM-220-902, Emergency Power Supply for Pressurizer Heaters.

ARE THERE ANY QUESTIONS?

TIME CRITICAL: No

JPM INSTRUCTION SHEET

DIRECTIONS TO STUDENT:

When I tell you to begin, you are to **TRANSFER PRESSURIZER GROUP 8 HEATERS FROM THE BOP POWER SUPPLY TO THE 1P 480V ES SWITCHGEAR** in accordance with OP-TM-220-902, Emergency Power Supply for Pressurizer Heaters. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

INITIAL CONDITIONS:

The Reactor is shutdown due to a loss of off-site power.

Off-Site power is not expected to return in the near future.

The decision has been made to transfer Pressurizer Heater Group 8 power to the 1P 480V ES Bus.

INITIATING CUE:

The Unit Supervisor directs you to transfer Group 8 Pressurizer Heaters from the BOP power supply to the 1P 480V ES Bus, using OP-TM-220-902, Emergency Power Supply for Pressurizer Heaters.

ARE THERE ANY QUESTIONS?

TIME CRITICAL: No

*Denotes Critical Elements

#Denotes Sequential Step

#	STEP	STANDARD	S/U
<p>CUE: Provide Examinee with a copy of OP-TM-220-902, Emergency Power Supply for Pressurizer Heaters, pages 1, 2, and 3, Rev. 0.</p> <p>CUE: Inform examinee that all prerequisites are satisfied.</p>			
1	Examinee reports to the 1B Pressurizer Heater MCC on the 322' elevation of the turbine building, west of the 12th Stage Extraction Steam Header.	Examinee reports to 1B Pressurizer Heater MCC. Note: Examinee may inform establish communications with control room.	
2	Examinee may describe requirements to wear protective gear and request a backup safety person.	If Examinee describes requirements to wear protective gear and request a backup safety person, provide the following response: CUE: For this task you would normally be required to don protective equipment and use a safety person. Compliance with these requirements is vitally important to ensure safe, successful completion of the assignment. For purposes of this examination, since we are not opening or operating any equipment, we will simulate the use of the protective equipment, and I will act as your backup safety person.	
*3	Examinee de-energizes Pressurizer Heater Group 8 by opening breaker Unit 2B on 1B Pressurizer Heater MCC.	Circuit breaker Unit 2B on 1B Pressurizer Heater MCC is open. NOTE: Handle on front of the door must be pulled downward, rotating in the clockwise direction, to open the breaker. CUE: Inform Examinee the breaker is open.	
*4	Examinee locks open Unit 2B breaker by rotating Key K1 (clockwise). Examinee pulls Keys K1 and L1 straight out to remove them from the breaker door.	Keys K1 and L1 are removed from their respective locks on the breaker door. CUE: <ul style="list-style-type: none"> • Dispense key tag K1. • Dispense key tag L1. Keys in hand: K1 and L1.	
*5	Keys in hand: K1 and L1. Examinee proceeds to Pressurizer Heater Group 8 Isolation device S1, located west of the 1B Pressurizer Heater MCC. Keys in hand: K1 and L1.	Examinee proceeds to Pressurizer Heater Group 8 Isolation Device S1.	

#	STEP	STANDARD	S/U
*6	<p>Keys in hand: K1 and L1.</p> <p>Examinee unlocks the enclosure door for Pressurizer Heater Group 8 Isolation Device S1 by inserting and then rotating (clockwise) Key K1.</p> <ul style="list-style-type: none"> Key K1 is now captured in its lock. <p>Examinee opens the enclosure door for Isolation Device S1.</p> <p>Keys in hand: L1.</p>	<p>S1 enclosure door is open.</p> <p>CUE: Inform Examinee that the lock on the door is unlocked and open.</p> <ul style="list-style-type: none"> Retrieve K1 key tag. Dispense Picture #1. 	
*7	<p>Keys in hand: L1.</p> <p>Examinee unlocks S1 disconnect assembly by inserting and rotating Key L1 (clockwise).</p> <ul style="list-style-type: none"> Key L1 is now captured in the lock. Key L3 can be removed. <p>Examinee removes Key L3 from S1 enclosure by pulling Key L3 straight out.</p> <p>Keys in hand: L3.</p>	<p>The disconnect assembly is unlocked and Key L3 is removed.</p> <p>CUES:</p> <ul style="list-style-type: none"> Retrieve key tag L1. Dispense key tag L3. 	
*8	<p>Keys in hand: L3.</p> <p>Examinee uses the socket and ratchet wrench inside the enclosure to remove the four bolts that hold the disconnect assembly in place</p> <p>Keys in hand: L3.</p>	<p>Four bolts removed.</p> <p>CUE: Inform Examinee all four bolts have been removed.</p>	
*9	<p>Keys in hand: L3.</p> <p>Examinee removes S1 disconnect assembly.</p> <p>Keys in hand: L3.</p>	<p>Examinee pulls the handle straight out to remove the disconnect assembly S1 from the enclosure.</p> <p>CUE: Inform Examinee disconnect assembly is removed from the enclosure.</p> <ul style="list-style-type: none"> Dispense Picture #2, Disconnect Assembly. 	
*10	<p>Keys in hand: L3.</p> <p>Examinee closes S1 enclosure door.</p> <p>Examinee locks S1 enclosure door by rotating Key K1 (counterclockwise).</p> <ul style="list-style-type: none"> Key K1 is no longer captured in its lock. <p>Examinee pulls Key K1 straight out to remove Key K1 from S1 enclosure door.</p> <p>Keys in hand: K1 and L3.</p>	<p>S1 enclosure door is closed and locked. Key K1 is removed.</p> <p>CUE:</p> <ul style="list-style-type: none"> Dispense key tag K1. Retrieve Picture #1. 	

#	STEP	STANDARD	S/U
11	<p>Keys in hand: K1 and L3.</p> <p>Examinee proceeds to disconnect assembly S1 Alternate enclosure located in the (Control Tower) 1P ES 480V switchgear room on the north wall.</p> <p>Keys in hand: K1 and L3.</p>	<p>Examinee is at S1 Alternate enclosure with the disconnect assembly and Keys K1 and L3.</p>	
*12	<p>Keys in hand: K1 and L3.</p> <p>Examinee unlocks S1 Alternate enclosure door by inserting and then rotating (counterclockwise) Key K1.</p> <ul style="list-style-type: none"> • Key K1 is now captured in this lock. <p>Examinee opens the S1 Alternate enclosure door.</p> <p>Keys in hand: L3.</p>	<p>Alternate enclosure door for S1 is open.</p> <p>CUE: Inform Examinee the enclosure door is unlocked and open.</p> <ul style="list-style-type: none"> • Retrieve K1 key tag. • Dispense Picture #1. <ul style="list-style-type: none"> • Remind Examinee that he/she is holding the wrench, the disconnect assembly, and the bolts. 	
*13	<p>Keys in hand: L3.</p> <p>Examinee inserts S1 disconnect assembly into S1 Alternate Enclosure.</p> <p>Keys in hand: L3.</p>	<p>Holding the handle, Examinee pushes disconnect assembly S1 straight into the receptacle to make the connections inside the alternate enclosure.</p> <p>CUE: Inform Examinee that the disconnect assembly is connected inside the alternate enclosure.</p>	
*14	<p>Keys in hand: L3.</p> <p>Examinee inserts and tightens the four bolts to fasten the disconnect assembly to the alternate enclosure.</p> <p>Keys in hand: L3.</p>	<p>Disconnect assembly is fastened inside of the alternate enclosure.</p> <p>CUE: Inform the examinee that the bolts are tightly bolted in place.</p> <ul style="list-style-type: none"> • Retrieve Picture #2, Disconnect Assembly. 	
*15	<p>Keys in hand: L3.</p> <p>Examinee locks the S1 disconnect assembly into the S1 Alternate Enclosure by inserting and then rotating Key L3 (counterclockwise).</p> <ul style="list-style-type: none"> • Key L3 is now captured in the lock. • Key L2 can now be removed. <p>Examinee removes Key L2.</p> <p>Keys in hand: L2.</p>	<p>The disconnect assembly is locked and Key L2 is removed.</p> <p>CUES: The disconnect assembly is locked into place.</p> <ul style="list-style-type: none"> • Retrieve key tag L3. • Dispense key tag L2. 	

#	STEP	STANDARD	S/U
*16	<p>Keys in hand: L2.</p> <p>Examinee closes S1 Alternate enclosure door.</p> <p>Examinee locks S1 Alternate enclosure door closed by inserting and rotating Key K1 (counterclockwise).</p> <p>Examinee removes Key K1 from S1 Alternate enclosure door by pulling Key K1 straight out.</p> <p>Keys in hand: K1 and L2.</p>	<p>S1 enclosure door is closed and locked, and Key K1 is removed.</p> <p>CUE: S1 Alternate enclosure door is closed and locked.</p> <ul style="list-style-type: none"> • Dispense key tag K1. • Retrieve Picture #1. 	
*17	<p>Keys in hand: K1 and L2.</p> <p>Examinee reports to Unit 3A on 1P 480V ES Bus.</p> <p>Examinee may describe requirements for use of protective equipment and safety backup person, in preparation for racking in Unit 3A.</p> <p>Examinee opens Unit 3A enclosure door.</p> <p>Keys in hand: K1 and L2.</p>	<p>Examinee at Unit 3A on 1P 480V ES Bus with protective equipment, breaker enclosure door simulated OPEN.</p> <p>NOTE: Current requirements for safety gear are; hardhat, flash goggles, Flamex apron and rubber gloves. Examinee may simulate use of safety gear during this examination.</p> <p>CUE: Dispense Picture #3.</p>	
*18	<p>Keys in hand: K1 and L2.</p> <p>Examinee unlocks Unit 3A mechanical interlock (prevents breaker from being racked in to the connected position) by inserting and then rotating Keys K1 and L2 in their respective locks in breaker Unit 3A at 1P 480V ES Bus.</p> <p>Keys in hand: None.</p>	<p>Key L2 rotated and interlock unlocked.</p> <p>CUE:</p> <ul style="list-style-type: none"> • Retrieve key tag K1. • Retrieve key tag L2. 	
*19	<p>Examinee communicates with Control Room to verify Pressurizer level is greater than 80 inches.</p>	<p>Pressurizer level is greater than 80 inches.</p> <p>CUE: Pressurizer level is 110 inches, and steady.</p>	
*20	<p>Examinee communicates with Control Room to verify P1-02 feeder current is <150 amperes.</p>	<p>P1-02 feeder current is <150 amperes.</p> <p>CUE: P1-02 feeder current is 110 amperes, and steady.</p>	
*21	<p>Examinee communicates with Control Room to verify either diesel generator breaker G1-02 breaker is open, or EG-Y-1A load is <2850 kW.</p>	<p>EG-Y-1A load is <2850 kW.</p> <p>CUE: G1-02 breaker is closed. EG-Y-1A load is 1200 kW, and steady.</p>	

#	STEP	STANDARD	S/U
<p>NOTE: Next procedure step directs Examinee to rack in Breaker Unit 3A at 1P 480V Bus. Rack-in of 480 volt breaker is a generic standalone task not being evaluated in this JPM. In fact, procedural instructions for this task are located in a totally different procedure.</p> <p>CUE: Inform the Examinee that the breaker has been racked in to the connected position.</p> <ul style="list-style-type: none"> • Retrieve key tag K1. • Retrieve key tag L2. • Retrieve Picture #3. 			
*22	<p>Examinee reports to the local control panel for Group 8 Pressurizer Heaters (north wall of the 1P 480V ES Bus room).</p> <p>Examinee energizes Group 8 Pressurizer heaters from 1P 480V ES Bus by rotating the local control switch clockwise to the close position.</p>	<p>Examinee energizes Group 8 Pressurizer heaters from 1P 480V ES Bus by rotating the local control switch clockwise to the close position.</p> <ul style="list-style-type: none"> • Local control panel switch rotated to the close position. • Red breaker status light is illuminated. • Green breaker light is de-energized. 	
<p>JPM may be terminated at this time.</p>			

END TASK

TMI-1 OPERATOR TRAINING

JOB PERFORMANCE MEASURE

11.2.05.033

B.2.c

RESET EF-P-1 OVERSPEED TRIP LEVER

TASK TITLE: RESET EF-P-1 OVERSPEED TRIP LEVER

TASK NUMBER: 0610120104 TIF: 3.29

K/A REFERENCE: System: 061 Auxiliary/Emergency Feedwater (AFW) System
K/A: A2.04
Rating: 3.4/3.8

POSITION: SRO RO NLO

EVALUATION METHOD: PERFORM SIMULATE

EVALUATION LOCATION: SIMULATOR IN-PLANT CONTROL ROOM OTHER

TASK STANDARDS: EF-P-1 has been reset.

APPROXIMATE COMPLETION TIME: 10 minutes.

TIME-CRITICAL TASK COMPLETION TIME: N/A minutes.

REQUIRED TOOLS OR MATERIALS:

- OP-TM-EOP-010, Guide 16.1, EFW Failure - Failure of EF-P-1 to Start, Rev. 1.
- Gloves (Optional – since no manipulations will actually be performed).

REFERENCES: OP-TM-EOP-010, Guide 16.1, EFW Failure - Failure of EF-P-1 to Start, Rev. 1.

ALTERNATE PATH JPM? NO

READ TO STUDENT

When I tell you to begin, you are to **RESET EF-P-1 OVERSPEED TRIP, USING OP-TM-EOP-010 Guide 16.1.** Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

INITIAL CONDITIONS:

The Reactor tripped due to a loss of Main Feedwater.
When EFW auto started, EF-P-1 tripped on overspeed.
OP-TM-EOP-010 Guide 16.1 is in progress.
Steam pressure to EF-P-1 is 150 psig, as read on MS-PI-204.
MS-V-13A and MS-V-13B are both closed at the present time.

INITIATING CUE:

The Unit Supervisor has directed you to:

- Obtain copy of the in progress OP-TM-EOP-010, Guide 16.1.
- Report to EF-P-1, establish communications with the control room, and then await further instructions.

ARE THERE ANY QUESTIONS?

TIME CRITICAL: No

JPM INSTRUCTION SHEET

DIRECTIONS TO STUDENT:

When I tell you to begin, you are to **RESET EF-P-1 OVERSPEED TRIP**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

INITIAL CONDITIONS:

The Reactor tripped due to a loss of Main Feedwater
When EFW auto started, EF-P-1 tripped on overspeed.
OP-TM-EOP-010 Guide 16.1 is in progress.
Steam pressure to EF-P-1 is 150 psig, as read on MS-PI-204.
MS-V-13A and MS-V-13B are both closed at the present time.

INITIATING CUE:

The Unit Supervisor has directed you to:

- Obtain copy of the in progress OP-TM-EOP-010, Guide 16.1.
- Report to EF-P-1, establish communications with the control room, and then await further instructions.

TIME-CRITICAL: NO

*Denotes Critical Elements

#Denotes Sequential Step

#	STEP	STANDARD	S/U
CUE: Provide Examinee with copy of OP-TM-EOP-010, Guide 16.1, EFW Failure - Failure of EF-P-1 to Start, Rev. 1, signed off as completed down through Step 6.			
1	Locate EF-P-1 in the basement of the Intermediate Building.	EF-P-1 is located.	
2	Establish communications with the control room.	Communication with the control room is established. CUE: Roleplay as CRO as needed.	
CUE: As the CRO, per Unit Supervisor, direct the Examinee to reset EF-P-1 overspeed trip.			
CUE: If asked for steam pressure on MS-PI-204 or MS-PC-5, state it indicates 150 psig.			
NOTE: Local steam pressure indication is provided on MS-PC-5.			
*3	With steam pressure greater than 50 psig, open trap drain isolation valve MS-V-52 to reduce steam pressure to less than 50 psig.	The Examinee locates and opens MS-V-52 by rotating the handwheel in the counterclockwise direction. The Examinee notifies the Control Room that MS-V-52 is open.	
CUE: If asked for steam pressure on MS-PI-204 or MS-PC-5, state it indicates 5 psig.			
*4	When MS-PI-204 (CR or locally) indicates < 50 psig, close MS-V-52.	The Examinee closes MS-V-52 by rotating the handwheel in the clockwise direction. The Examinee notifies the Control Room that MS-V-52 is closed. CUE: The CRO, utilizing proper communications acknowledges MS-V-52 is closed.	
*5	When MS-PI-204 < 50 psig, reset the governor trip lever.	Valve arm on EF-P-1 stop valve has been raised from the vertical position to the horizontal position. The trip finger locking device (spring) is moved so that the trip finger can be rotated. NOTE: MAP annunciator J-1-2 EFW TURB PMP OS TRIP, is expected to CLEAR in the Control Room. CUE: If the reset operation is completed correctly, inform the Examinee that the valve arm and the trip finger are now oriented such that the valve arm can be latched to the trip finger.	
*6	Examinee latches the valve arm to the trip finger and allows the trip finger locking device to rest on the trip finger.	The valve arm is latched to the trip finger. CUE: Inform the Examinee that the valve arm is held in the horizontal position by the trip finger if he/she correctly describes steps 5 & 6.	
7	Contact the Control Room to report EF-P-1 is reset.	The Control Room is notified. CUE: The CRO, as part of three-way communications, acknowledges EF-P-1 is reset.	
NOTE: The Examinee should terminate this JPM at this time.			

END TASK

