

Facility: Peach Bottom Unit 2 & 3 Date of Examination: Week of Feb. 5, 2001  
 Exam Level (circle one) **(RO)** SRO(I) / SRO(U) Operating Test No.: RO - 1

### B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. Recirculation Flow Control System / Reset the 'A' Recirc System Upper Flow Limit	D, S	1
b. Reactor Condensate System / Start the 'C' Condensate Pump	N, S	2
c. Reactor – Turbine Pressure Regulating System / Monitoring Reactor Vessel Temperatures During Cooldown (Alternate Path – Excessive Cooldown Rate)	D, A, S, L	3
d. RHR-LPCI / High Pressure Service Water System Startup (Alternate Path – High Pump Motor Temperature)	D, A, S	4
e. PCIS / PRO Scram Actions (Alternate Path – Isolation Failure)	D, A, S, L	5
f. Emergency Generators / Diesel Generator Fast Start	D, S	6
g. Reactor Protection System / Reset Half Scram	N, S	7

### B.2 Facility Walk-Through

a. Control Rod Drive / Isolating and Venting the Scram Air Header	D,R	1 Emergency
b. Automatic Depressurization System / Backup Instrument Nitrogen to ADS	D, R	3
c. Main and Reheat Steam System / Closing a Stuck Open MSIV (Alternate Path – Fuse Failure to Close MSIV)	D,A,R	4 Abnormal

\* 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

Facility: Peach Bottom Unit 2 & 3 Date of Examination: Week of Feb. 5, 2001  
 Exam Level (circle one): RO / (SRO(I)) SRO(U) Operating Test No.: SRO (I)-1

### B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. Recirculation Flow Control System / Reset the 'A' Recirc System Upper Flow Limit	D, S	1
b. Reactor Condensate System / Start the 'C' Condensate Pump	N, S	2
c. Reactor – Turbine Pressure Regulating System / Monitoring Reactor Vessel Temperatures During Cooldown (Alternate Path – Excessive Cooldown Rate)	D, A, S, L	3
d. RHR-LPCI / High Pressure Service Water System Startup (Alternate Path – High Pump Motor Temperature)	D, A, S	4
e. PCIS / PRO Scram Actions (Alternate Path – Isolation Failure)	D, A, S, L	5
f. Emergency Generators / Diesel Generator Fast Start	D, S	6
g. Reactor Protection System / Reset Half Scram	N, S	7

### B.2 Facility Walk-Through

a. Control Rod Drive / Isolating and Venting the Scram Air Header	D,R	1 Emergency
b. Automatic Depressurization System / Backup Instrument Nitrogen to ADS	D, R	3
c. Main and Reheat Steam System / Closing a Stuck Open MSIV (Alternate Path – Fuse Failure to Close MSIV)	D,A,R	4 Abnormal

\* 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

Facility: Peach Bottom Unit 2 & 3 Date of Examination: Week of Feb. 5, 2001  
 Exam Level (circle one): RO / SRO(I) **SRO(U)** Operating Test No.: SRO (U)-1

### B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. Reactor Condensate System / Start the 'C' Condensate Pump	N, S	2
b. PCIS / PRO Scram Actions (Alternate Path – Isolation Failure)	D, A, S, L	5
c. Reactor Protection System / Reset Half Scram	N, S	7

### B.2 Facility Walk-Through

a. Control Rod Drive / Isolating and Venting the Scram Air Header	D,R	1 Emergency
b. Main and Reheat Steam System / Closing a Stuck Open MSIV (Alternate Path – Fuse Failure to Close MSIV)	D,A,R	4 Abnormal

\* 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

5 1

EXELON NUCLEAR  
PEACH BOTTOM ATOMIC POWER STATION  
JOB PERFORMANCE MEASURE

POSITION TITLE: Unit Reactor Operator/Senior Reactor Operator

TASK-JPM DESIGNATOR: 2020050101 / PLOR-007C

K/A: 202002A4.07

URO: 3.6 SRO: 3.4

TASK DESCRIPTION: Reset a Recirculation System Upper Flow Limit

A. NOTES TO EVALUATOR:

1. An asterisk (\*) before the step number denotes a CRITICAL STEP. CRITICAL STEPS are those steps which when not performed correctly will prevent the system from functioning properly or prevent successful task completion.
2. System cues included in the performance checklist are to be provided to the examinee when no system response is available.
3. JPM Performance
  - a. "Control Room" JPMs are designed to be performed in the simulator. If a "Control Room" JPM is to be performed in the Control Room all perform steps (P) shall be simulated (S).
  - b. When performing "In-Plant" JPMs, no equipment will be operated without Shift Management approval.
4. Satisfactory performance of this JPM is accomplished if:
  - a. The task standard is met.
  - b. JPM completion time requirement is met.
    - 1) For non-time critical JPMs, completion within double the estimated time (listed in paragraph D.2) is acceptable provided the evaluator determines that the progress to completion is acceptable.
    - 2) For time critical JPMs, completion within the estimated time (listed in paragraph D.2) is required.
5. The estimated time to complete this JPM, though listed in the task standard, is not to be given to the examinee.

B. TOOLS AND EQUIPMENT

1. None

C. REFERENCES

1. SO 2.7.A-2 Rev. 7, "Resetting Recirculation System Upper and Lower Flow Limits"

D. TASK STANDARD

1. Satisfactory task completion is indicated when the Recirculation Pump Upper flow limit for the "A" and "B" Recirculation Pump is reset.
2. Estimated time to complete: 9 minutes Non-Time Critical

E. DIRECTIONS TO EXAMINEE

When given the initiating cue, perform necessary steps to reset the Recirculation System Upper flow limit using appropriate procedures. I will describe initial plant conditions and provide you access to the materials required to complete this task.

F. TASK CONDITIONS/PREREQUISITES

1. "A" Condensate Pump has tripped from 100% power.
2. Reactor power is approximately 70%.
3. The cause of the "A" Condensate Pump trip has been determined and corrected, and "A" Condensate Pump has been restarted.
4. The Upper Recirculation Pump flow limit is in effect.

G. INITIATING CUE

The Control Room Supervisor directs you to reset the upper flow limit for the "A" and "B" Recirculation Pumps using SO 2.7.A-2, "Resetting Recirculation System Upper and Lower Flow Limits".

## H. PERFORMANCE CHECKLIST

STEP NO	STEP	ACT	STANDARD
1	Obtain a copy of procedure SO 2.7.A-2.	P	A copy of procedure SO 2.7.A-2 is obtained.
<p style="text-align: center;"><b>*** NOTE ***</b></p> <p><b>This JPM is written assuming the "A" Recirculation Pump Upper Flow Limit is reset prior to resetting the "B" Recirculation Pump Upper Flow Limit per the NOTE after step 4.2.1.</b></p>			
*2	<p>Slowly lower speed demand using "A" M/A station until "A" generator speed drops slightly.</p> <p>(Cue: Acknowledge M/A station operation; SPI-2-02-184-016A indicates a slight drop.)</p>	P	The "A" Recirc Pump M/A station manual control knob is turned in the counterclockwise direction at the 20C004A panel until "A" generator speed drops slightly.
*3	<p>Depress the "'A' Upper Recirc Flow Limit" reset pushbutton.</p> <p>(Cue: Acknowledge pushbutton operation.)</p>	P	The "'A' Upper Recirc Flow Limit" pushbutton is momentarily DEPRESSED at panel 20C004A.
4	Verify "'A' Upper Flow Limit" red light goes out.	P	"'A' Upper Flow Limit" red light is verified OUT at panel 20C004A.
5	Verify annunciator "A Recirc Flow Limit" (214 B-3) clears.	P	"A Recirc Flow Limit" annunciator verified clear.
*6	<p>Slowly lower speed demand using "B" M/A station until "B" generator speed drops slightly.</p> <p>(Cue: Acknowledge M/A station operation; SPI-2-02-184-016B indicates a slight drop.)</p>	P	The "B" Recirc Pump M/A station manual control knob is turned in the counterclockwise direction at the 20C004A panel until "B" generator speed drops slightly.
*7	<p>Depress the "'B' Upper Recirc Flow Limit" reset pushbutton.</p> <p>(Cue: Acknowledge pushbutton operation.)</p>	P	The "'B' Upper Recirc Flow Limit" pushbutton is momentarily DEPRESSED at panel 20C004A.
8	<p>Verify "'B' Upper Recirc Flow Limit" red light is out.</p> <p>(Cue: "'B' Upper Recirc Flow Limit" red light is out.)</p>	P	"'B' Upper Recirc Flow Limit" red light is verified OUT at panel 20C004A.

STEP NO	STEP	ACT	STANDARD
9	Verify annunciator "B RECIRC FLOW LIMIT" (214 G-3) clears.  (Cue: Annunciators 214 B-3 and 214 G-3 are clear.)	P	'B' "RECIRC FLOW LIMIT" annunciator verified clear.
10	Inform Control Room Supervisor of task completion.  (Cue: Control Room Supervisor acknowledges report.)	P	Task completion reported.

Under "ACT" P - must perform  
S - must simulate

#### I. TERMINATING CUE

When the Recirculation System Upper Flow Limit has been reset for the "A" and "B" Recirculation Pumps, the Control Room Supervisor should be informed. The evaluator will then terminate the exercise.

## **TASK CONDITIONS/PREREQUISITES**

- 1. "A" Condensate Pump has tripped from 100% power.**
- 2. Reactor power is approximately 70%.**
- 3. The cause of the "A" Condensate Pump trip has been determined and corrected, and "A" Condensate Pump has been restarted.**
- 4. The Upper Recirculation Pump flow limit is in effect.**

## **INITIATING CUE**

**The Control Room Supervisor directs you to reset the upper flow limit for the "A" and "B" Recirculation Pumps using SO 2.7.A-2, "Resetting Recirculation System Upper and Lower Flow Limits".**





2

5

EXELON NUCLEAR  
PEACH BOTTOM ATOMIC POWER STATION  
JOB PERFORMANCE MEASURE

POSITION TITLE: Unit Reactor Operator/Senior Reactor Operator

TASK-JPM DESIGNATOR: 2560150101 / PLOR-XXXC

K/A: 256000A4.01

URO: 3.3 SRO: 3.3

TASK DESCRIPTION: Start the 'C' Condensate Pump

A. NOTES TO EVALUATOR:

1. An asterisk (\*) before the step number denotes a CRITICAL STEP. CRITICAL STEPS are those steps which when not performed correctly will prevent the system from functioning properly or prevent successful task completion.
2. System cues included in the performance checklist are to be provided to the examinee when no system response is available.
3. JPM Performance
  - a. "Control Room" JPMs are designed to be performed in the simulator. If a "Control Room" JPM is to be performed in the Control Room all perform steps (P) shall be simulated (S).
  - b. When performing "In-Plant" JPMs, no equipment will be operated without Shift Management approval.
4. Satisfactory performance of this JPM is accomplished if:
  - a. The task standard is met.
  - b. JPM completion time requirement is met.
    - 1) For non-time critical JPMs, completion within double the estimated time (listed in paragraph D.2) is acceptable provided the evaluator determines that the progress to completion is acceptable.
    - 2) For time critical JPMs, completion within the estimated time (listed in paragraph D.2) is required.
5. The estimated time to complete this JPM, though listed in the task standard, is not to be given to the examinee.

B. TOOLS AND EQUIPMENT

1. None

REFERENCES

1. SO 5.1.B-2 Rev. 16, "Placing the Second and Third Condensate Pumps in Service".

D. TASK STANDARD

1. Satisfactory task completion is indicated when the "C" Condensate pump is running, with flow controller FC-2110 set at 3.0 E+6 lbm/hr.
2. Estimated time to complete: 10 minutes Non-Time Critical

E. DIRECTIONS TO EXAMINEE

When given the initiating cue, perform necessary steps to start the "C" Condensate pump using SO 5.1.B-2, "Placing the Second and Third Condensate Pumps in Service". I will describe initial plant conditions and provide you access to the materials required to complete this task.

F. TASK CONDITIONS/PREREQUISITES

1. 13 KV power is available to the "C" Condensate Pump in accordance with SO 53.
2. 480 VAC power is available in accordance with SO 56.
3. Instrument Air is available to the Condensate System in accordance with SO 36B.
4. The 2A and 2B Condensate pumps are operating in accordance with SO 5.1.A-2 and this procedure.
5. Turbine Building Ventilation system is in operation in accordance with SO 40A.1.C-2.
6. An Equipment Operator is standing by in the vicinity to support start of the 2C Condensate Pump. Pre-startup checks (steps 4.1 through 4.6.3) have been completed for the 2C Condensate pump in accordance with SO 5.1.B-2, "Placing the Second and Third Condensate Pumps in Service".

G. INITIATING CUE

The Control Room Supervisor directs you to start the 2C Condensate Pump in accordance with SO 5.1.B-2, "Placing the Second and Third Condensate Pumps in Service".

## H. PERFORMANCE CHECKLIST

STEP NO	STEP	ACT	STANDARD
1	Obtain a copy of procedure SO 5.1.B-2.	P	A copy of procedure SO 5.1.B-2 is obtained.
*2	Crack open for 5 to 10 seconds, MO-2098C, "Condensate Pump Discharge Valve" for the 2C Condensate Pump on panel 20C007B.  (Cue: Acknowledge control switch operation).	P	MO-2098C control switch is placed in the open position.
3	Verify that MO-2098C is opening.  (Cue: MO-2098C red light illuminates".)	P	MO-2098C red indicating light is verified to be illuminated.
*4	Stop the MO-2098C motion after 5 - 10 seconds.  (Cue: Acknowledge pushbutton operation.)	P	Depress the red stop pushbutton after the valve opens for 5 - 10 seconds.
*5	Close MO-2098C, Condensate Pump Discharge Valve" for the 2C Condensate Pump on panel 20C007B.  (Cue: Acknowledge control switch operation).	P	MO-2098C control switch is placed to the close position.
6	Verify that MO-2098C is closed.  (Cue: MO-2098C red light extinguishes.)	P	MO-2098C red indicating light is verified to be off.
*7	Start the 2C Condensate Pump.  (Cue: 2C Condensate pump red light illuminates, green light extinguishes. 2C Condensate pump amps peg high, and then lower to 120 amps).	P	2C Condensate Pump Control Switch is taken to start at panel 20C007A.
8	Check that motor amps stabilize at greater than or equal to 115 amps and less than or equal to 125 amps as indicated on panel 20C007A.  (Cue: 2C Condensate pump ammeter indicate 120 amps).	P	2C Condensate Pump Amps indicate 120 amps at panel 20C007A.
*9	Open MO-2098C, "Condensate Pump Discharge Valve" on panel 20C007B.  (Cue: Acknowledge control switch operation).	P	MO-2098C control switch is placed in the open position. (2 min. limitation for pump running with discharge valve closed.)

STEP NO	STEP	ACT	STANDARD
10	Verify MO-2098C, "Condensate Pump Discharge Valve" on panel 20C007B is open. (Cue: MO-2098C red indicating light illuminates, and MO-2098C green indicating light extinguishes.	P	MO-2098C red indicating light is illuminated, MO-2098C green light is extinguished.
11	Direct the equipment operator to verify that discharge pressure for each operating condensate pump is less than 650 psig, as indicated by PI-2106A(B)(C), "A(B)(C) Condensate Pump Discharge Press" located on panel 2DC159.  (Cue: All three condensate pump's discharge pressure are verified to be less than 650 psig).	P	Equipment Operator is directed to verify that discharge pressure for each operating condensate pump is less than 650 psig, as indicated by PI-2106A(B)(C).
12	Direct an Equipment Operator to close the 2C Condensate Pump discharge vent HV-2-5-26027C.  (Cue: Equipment operator reports that HV-2-5-26027C is closed.	P	Equipment Operator is directed to close HV-2-5-26027C.
13	Verify Condensate Pump Vibration Monitor readings are at least 1 mil less than alarm setpoint at Data Acquisition System (DAS) display XI-80838 on panel 20C007B AND computer points CA049 through CA057.  (Cue: All vibration monitor readings are at least 1 mil less than alarm setpoint).	P	Vibration readings are all verified to be at least 1 mil less than the alarm setpoint.
*14	Set FC-2110, "Condensate Recirc Flow" to 3.0 E+6 lbm/hr (6000 gpm), and verify controller is in auto.  (Cue: FC-2110 indicates 3.0 E+6 lbm/hr, with the Flow Controller in auto.	P	FC-2110 is set to 3.0 E+6 lbm/hr is auto.
15	Inform Control Room of task completion.  (Cue: Control Room acknowledges report.)	P	Task completion reported.

Under "ACT" P - must perform  
S - must simulate

## I. TERMINATING CUE

When the 2C Condensate Pump is running, with FC-2110 set at 3.0 E+6 in auto, the Control Room Supervisor should be informed. The evaluator will then terminate the exercise.

## **TASK CONDITIONS/PREREQUISITES**

- 1. 13 KV power is available to the "C" Condensate Pump in accordance with SO 53.**
- 2. 480 VAC power is available in accordance with SO 56.**
- 3. Instrument Air is available to the Condensate System in accordance with SO 36B.**
- 4. The 2A and 2B Condensate pumps are operating in accordance with SO 5.1.A-2 and this procedure.**
- 5. Turbine Building Ventilation system is in operation in accordance with SO 40A.1.C-2.**
- 6. An Equipment Operator is standing by in the vicinity to support start of the 2C Condensate Pump. Pre-startup checks (steps 4.1 through 4.6.3) have been completed for the 2C Condensate pump in accordance with SO 5.1.B-2, "Placing the Second and Third Condensate Pumps in Service".**

## **INITIATING CUE**

**The Control Room Supervisor directs you to start the 2C Condensate Pump in accordance with SO 5.1.B-2, "Placing the Second and Third Condensate Pumps in Service".**





EXELON NUCLEAR  
PEACH BOTTOM ATOMIC POWER STATION  
JOB PERFORMANCE MEASURE

5

POSITION TITLE: Unit Reactor Operator/Senior Reactor Operator

TASK-JPM DESIGNATOR: 2100070201 / PLOR-317CA

K/A: 216000A1.01

RO: 3.4 SRO: 3.3

TASK DESCRIPTION: Monitor Reactor Vessel Temperatures During Cooldown

A. NOTES TO EVALUATOR:

1. An asterisk (\*) before the step number denotes a CRITICAL STEP. CRITICAL STEPS are those steps which when not performed correctly will prevent the system from functioning properly or prevent successful task completion.
2. System cues included in the performance checklist are to be provided to the examinee when no system response is available.
3. JPM Performance
  - a. "Control Room" JPMs are designed to be performed in the simulator. If a "Control Room" JPM is to be performed in the Control Room all perform steps (P) shall be simulated (S).
  - b. When performing "In-Plant" JPMs, no equipment will be operated without Shift Management approval.
4. Satisfactory performance of this JPM is accomplished if:
  - a. The task standard is met.
  - b. JPM completion time requirement is met.
    - 1) For non-time critical JPMs, completion within double the estimated time (listed in paragraph D.2) is acceptable provided the evaluator determines that the progress to completion is acceptable.
    - 2) For time critical JPMs, completion within the estimated time (listed in paragraph D.2) is required.
5. The estimated time to complete this JPM, though listed in the task standard, is not to be given to the examinee.

## B. TOOLS AND EQUIPMENT

Partially completed copy of ST-O-080-500-2, Recording and monitoring Reactor Vessel Temperatures and Pressure.

## C. REFERENCES

1. ST-O-080-500-2, Rev. 7, Recording and Monitoring Reactor Vessel Temperatures and Pressure.
2. GP-3, Rev. 86, Normal Plant Shutdown

## D. TASK STANDARD

1. Satisfactory task completion is indicated when all required steps have been completed for one set of 15 minute data.
2. Estimated time to complete: 15 minutes Non-Time Critical

## E. DIRECTIONS TO EXAMINEE

When given the initiating cue, perform ST-O-080-500-2, Recording and Monitoring Reactor Vessel Temperatures and Pressure using the appropriate procedures. I will describe initial plant conditions and provide you access to the materials required to complete this task.

## TASK CONDITIONS/PREREQUISITES

1. A reactor cooldown is in progress with a stable cooldown rate established using Bypass valves and pressure set.
2. Cooldown data from PMS is unavailable.
3. Initial data for ST-O-080-500-2, Recording and Monitoring Reactor Vessel Temperatures and Pressure has been recorded on the procedure copy to be provided.

## G. INITIATING CUE

The Reactor is shut down and a cooldown is in progress. The Control Room Supervisor directs you to you, to perform the applicable steps of ST-O-080-500-2, Recording and Monitoring Reactor Vessel Temperatures and Pressure using the copy of the procedure provided.

## H. PERFORMANCE CHECKLIST

TEP NO	STEP	ACT	STANDARD
<p align="center"><b>****NOTE****</b></p> <p><b>Provide the examinee with a consumable copy of ST-O-080-500-2 with all appropriate signoffs completed on the front cover and page 3 and four lines of temperature data complete on Data Sheet 1.</b></p>			
*1	Record all the required data using Data Sheet 1.  (Cue: Acknowledge the use of Data Sheet 1.)	P	The operator records Vessel Drain Pipe Temperature (column 3), Vessel Metal Temperatures (columns 4 & 5), Reactor Pressure (column 7), Recirc Pump Suction Temperatures (columns 9 & 10).
*2	Determine Steam Dome Saturation Temperature for the reactor pressure in column 7.  (Cue: Acknowledge the determination saturation temperature.)	P	The operator uses Table 1 (TSAT) or PMS point SPDS0228 to determine TSAT for reactor pressure and records it in column 8.
*3	Determine which required temperature points are valid for 100°F/hr compliance.  (Cue: Acknowledge selection of temperature points.)	P	Determine that Steam Dome Saturation Temperature and both Recirc Pump Suction Temperatures are valid for 100°F/hr compliance.
*4	Calculate the difference between the current valid temperature points and the previous values taken 15 minutes ago.  (Cue: Acknowledge calculation.)	P	A calculation of the 15 minute differential temperature for Steam Dome Saturation Temperature and both Recirc Pump Suction Temperatures is made.
*5	Record the value of the largest 15 minute change from the valid temperature points on Data Sheet 1.  (Cue: Acknowledge use of Data Sheet 1.)	P	The largest 15 minute differential temperature from the three valid temperature points (usually Steam Dome Saturation Temperature) is recorded in column 11.
<p align="center"><b>****NOTE****</b></p> <p><b>If the candidate reports that the cooldown rate is excessive, acknowledge the report and direct the candidate to take appropriate action and complete the surveillance.</b></p>			

STEP NO	STEP	ACT	STANDARD
*6	Verify the largest 15 minute temperature change is less than or equal to 20°F and initial "SAT" on Data Sheet 1. Initial "UNSAT" and circle the reading if greater than 20°F.  (Cue: Acknowledge the use of Data Sheet 1.)	P	The largest 15 minute temperature change is recognized to be greater than 20°F. Column 12 is initialed "Unsat" and the Unsat temperature reading is circled.
*7	Verify that all required valid temperature points have not changed by more than 100°F. Initial "UNSAT" and take immediate action to reduce cooldown rate.  (Cue: Acknowledge use of Data Sheet 1. All BPV green lights "ON", red lights "OFF".)	P	Steam Dome Saturation Temperature and both Recirc Pump Suction Temperatures are recognized to have changed greater than 100°F in the last hour, "UNSAT" is initiated in column 13, pressure set raise pushbutton is depressed until the BPVs go closed.
*8	Determine the appropriate P-T Curve Figure for the current plant conditions.  (Cue: Acknowledge choice of table.)	P	Determination is made that Table 4 is the appropriate P-T Curve.
*9	Determine required valid temperature points per the appropriate table.  (Cue: Acknowledge choice of valid temperature points.)	P	Using Table 4 determination is made that saturation temperature is the valid point for Curve B, and Recirc Pump Suction Temperature for Curve B <sub>BH</sub> .
*10	Verify reactor pressure and the required valid temperatures are on the safe side of the required P-T Curve and initial "SAT" on Data Sheet 1. If not on the safe side of the curve initial "UNSAT" and take immediate action to review plant conditions to the safe side of the curve as directed by Shift Management.  (Cue: Acknowledge Table 4 and Data Sheet 1 use.)	P	Reactor pressure vs. Steam Dome Saturation Temperature are verified to be on the Right Side of Curve "B" on Table 4, and reactor. Pressure vs. Recirc Pump Suction Temperatures are verified to be on the right side of Curve B <sub>BH</sub> on Table 4, and initial "SAT" in column 6.
11	Inform the Control Room Supervisor of task completion.	P	The operator informs the Control Room Supervisor of task completion.

Under "ACT" P - must perform  
S - must simulate

## **I. TERMINATING CUE**

When the applicable steps of ST-O-080-500-2 are complete including evaluation of data to determine compliance with applicable limits, the Control Room Supervisor should be informed. The evaluator will then terminate the exercise.

## **TASK CONDITIONS/PREREQUISITES**

- 1. A reactor cooldown is in progress with a stable cooldown rate established using Bypass valves and pressure set.**
- 2. Cooldown data from PMS is unavailable.**
- 3. Initial data for ST-O-080-500-2, Recording and Monitoring Reactor Vessel Temperatures and Pressure has been recorded on the procedure copy to be provided.**

## **INITIATING CUE**

**The Reactor is shut down and a cooldown is in progress. The Control Room Supervisor directs you to you, to perform the applicable steps of ST-O-080-500-2, Recording and Monitoring Reactor Vessel Temperatures and Pressure using the copy of the procedure provided.**



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EXELON NUCLEAR  
PEACH BOTTOM ATOMIC POWER STATION  
JOB PERFORMANCE MEASURE

POSITION TITLE: Unit Reactor Operator/Senior Reactor Operator

TASK-JPM DESIGNATOR: 2050420101 / PLOR-305CA

K/A: 203000A4.04

URO: 3.6 SRO: 3.6

TASK DESCRIPTION: High Pressure Service Water System Startup (Alternate Path - High Pump Motor Temperature)

A. NOTES TO EVALUATOR:

1. An asterisk (\*) before the step number denotes a CRITICAL STEP. CRITICAL STEPS are those steps which when not performed correctly will prevent the system from functioning properly or prevent successful task completion.
2. System cues included in the performance checklist are to be provided to the examinee when no system response is available.
3. JPM Performance
  - a. "Control Room" JPMs are designed to be performed in the simulator. If a "Control Room" JPM is to be performed in the Control Room all perform steps (P) shall be simulated (S).
  - b. When performing "In-Plant" JPMs, no equipment will be operated without Shift Management approval.
4. Satisfactory performance of this JPM is accomplished if:
  - a. The task standard is met.
  - b. JPM completion time requirement is met.
    - 1) For non-time critical JPMs, completion within double the estimated time (listed in paragraph D.2) is acceptable provided the evaluator determines that the progress to completion is acceptable.
    - 2) For time critical JPMs, completion within the estimated time (listed in paragraph D.2) is required.
5. The estimated time to complete this JPM, though listed in the task standard, is not to be given to the examinee.



B. TOOLS AND EQUIPMENT

None

REFERENCES

SO 32.1.A-2, Rev. 11, "High Pressure Service Water System Startup and Normal Operations"

D. TASK STANDARD

1. Satisfactory task completion is indicated when the "A" HPSW Pump has been started and then manually tripped due to high motor bearing temperature.
2. Estimated time to complete: 12 minutes Non-Time Critical

E. DIRECTIONS TO EXAMINEE

When given the initiating cue, perform necessary steps to start the "A" HPSW Pump using appropriate procedures. I will describe initial plant conditions and provide you access to the materials required to complete this task.

F. TASK CONDITIONS/PREREQUISITES

1. High Pressure Service Water System is lined up per COL 32.1.A-2.
2. The HPSW Radiation Monitoring System is in operation per SO 63.H.1.A-2.
3. All Diesel Generators are shutdown.
4. Outside air temperature is 45°F.

G. INITIATING CUE

The Control Room Supervisor directs you to place the "A" HPSW Pump in service through the "A" RHR Heat Exchanger in accordance with SO 32.1.A-2, "High Pressure Service Water System Startup and Normal Operations".

# H. PERFORMANCE CHECKLIST

STEP NO	STEP	ACT	STANDARD
1	Obtain a copy of procedure SO 32.1.A-2.	P	A copy of procedure SO 32.1.A-2 is obtained.
2	Direct an Equipment Operator to verify oil level in upper and lower sight glasses on the "A" HPSW Pump is at STANDSTILL.  (Cue: Equipment Operator reports that oil level at STANDSTILL.)	P	Equipment Operator is contacted to verify that oil level in the upper and lower sight glasses on the "A" HPSW Pump is at STANDSTILL.
3	Direct an Equipment Operator to verify HPSW and ESW Pump Room fans are aligned.  (Cue: Equipment Operator reports that 2BV060 is in "AUTO" and 2AV060 is in "AUTO STBY" and 2AV083 and 2BV083 are in "AUTO".)	P	Equipment Operator is contacted to verify HPSW and ESW pump room fan 2BV060 is in "AUTO", 2AV060 is in "AUTO STBY", 2AV083 is in "AUTO" and 2BV083 is in "AUTO" on panel 20C139.
*4	Open MO-2-10-89A, "HPSW Hx Out".  (Cue: Acknowledge control switch operation.)	P	MO-2-10-89A control switch is momentarily placed in the OPEN position at panel 20C003-04.
5	Verify MO-2-10-89A "HPSW Hx Out" is open.  (Cue: MO-89A red light is on, green light is out, annunciator E-4 on alarm panel 223 is alarming.)	P	MO-2-10-89A red light is verified ON at panel 20C003-04.
6	Acknowledge the "A RHR HEAT EXCHANGER TUBE TO SHELL LOW PRESS" annunciator.  (Cue: Annunciator 223 E-4 is lit solid.)	P	The annunciator "ACKNOWLEDGE" pushbutton is depressed on panel 20C003-04.
*7	Start the "A" HPSW Pump.  (Cue: Acknowledge control switch operation.)	P	"A" HPSW Pump control switch is momentarily placed in the START position at panel 20C003-04.

STEP NO	STEP	ACT	STANDARD
8	<p>Verify proper start of the "A" HPSW Pump.</p> <p>(Cue: "A" HPSW Pump red light is on, green light is off, 10A-A2A indicates 120 amps, PI-2330A indicates 300 psig and DPI-2-10-130A indicates 100 psid.)</p>	P	Pump red light ON, amps stable, discharge pressure 260 to 280 psig verified after starting current decays at panel 20C003-04.
9	<p>Verify greater than 20 psid across the "A" RHR heat exchanger on DPI-2-10-130A.</p> <p>(Cue: DPI-2-10-130A indicates 100 psid.)</p>	P	DP across the "A" RHR Hx is verified to be greater than 20 psid on DPI-2-10-130A at panel 20C003-04.
10	<p>Verify "RHR HEAT EXCHANGER TUBE TO SHELL LOW PRESS" annunciator is clear.</p> <p>(Cue: Annunciator 223 E-4 not lit.)</p>	P	"RHR HEAT EXCHANGER TUBE TO SHELL LOW PRESS" annunciator is verified clear on alarm panel 223 E-4.
11	<p>Monitor "A" HPSW motor bearing temperature on computer points W058 - W060.</p> <p>(Cue: W058 indicates 220°F, W059 indicates 205°F, W060 indicates 210°F.)</p>	P	"A" HPSW Pump motor bearing temperature is monitored on computer points W058 - W060.
12	<p>Recognize bearing temperatures indicate a trend above 195°F.</p> <p>(Cue: Computer point W058, W059, and W060 temperatures are rising.)</p>	P	High motor bearing temperature condition is recognized.
*13	<p>Trip the "A" HPSW Pump.</p> <p>(Cue: Acknowledge control switch operation.)</p>	P	"A" HPSW Pump control switch is momentarily placed in the STOP position at panel 20C003-04.
14	<p>Verify the "A" HPSW Pump is secured.</p> <p>(Cue: "A" HPSW green light is on, red light is off, 10A-A2A indicates 0 amps, PI-2330A indicates 0 psig, and DPI-2-10-130A indicates 0 psid.)</p>	P	Pump green light ON is verified at panel 20C003-04.

STEP NO	STEP	ACT	STANDARD
15	CLOSE MO-2-10-89A "HPSW Hx Out"  (Cue: Acknowledge control switch operation.)	P	MO-2-10-89A control switch is momentarily placed in CLOSE position at Panel 20C003-04.
16	Verify MO-2-10-89A "HPSW Hx Out" is closed  (cue: MO89A Green light is on, red light is out)	P	MO-2-10-89A Green light is verified ON at Panel 20C003-04.
17	Inform Control Room Supervisor of high temperature condition on the "A" HPSW Pump motor and that the pump has been tripped.  (Cue: Control Room Supervisor acknowledges report.)	P	High temperature condition on "A" HPSW Pump motor and trip of pump reported to CRS.

Under "ACT" P - must perform  
S - must simulate

#### TERMINATING CUE

When the "A" High Pressure Service Water Pump has been started and then manually tripped due to high motor bearing temperature, the Control Room Supervisor should be informed. The evaluator will then terminate the exercise.

## **TASK CONDITIONS/PREREQUISITES**

- 1. High Pressure Service Water System is lined up per COL 32.1.A-2.**
- 2. The HPSW Radiation Monitoring System is in operation per SO 63.H.1.A-2.**
- 3. All Diesel Generators are shutdown.**
- 4. Outside air temperature is 45°F.**

## **INITIATING CUE**

**The Control Room Supervisor directs you to place the "A" HPSW Pump in service through the "A" RHR Heat Exchanger in accordance with SO 32.1.A-2, "High Pressure Service Water System Startup and Normal Operations ".**



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EXLEON NUCLEAR  
PEACH BOTTOM ATOMIC POWER STATION  
JOB PERFORMANCE MEASURE

POSITION TITLE: Reactor Operator/Senior Reactor Operator

TASK-JPM DESIGNATOR: 2000330501 / PLOR-319CA K/A: 295006G10  
RO: 4.1 SRO: 4.2

TASK DESCRIPTION: Plant Reactor Operator Response to Reactor Scram (Alternate Path – SDV Fails to Isolate)

A. NOTES TO EVALUATOR:

1. An asterisk (\*) before the step number denotes a CRITICAL STEP. CRITICAL STEPS are those steps which when not performed correctly will prevent the system from functioning properly or prevent successful task completion.
2. System cues included in the performance checklist are to be provided to the examinee when no system response is available.
3. JPM Performance
  - a. "Control Room" JPMs are designed to be performed in the simulator. If a "Control Room" JPM is to be performed in the Control Room all perform steps (P) shall be simulated (S).
  - b. When performing "In-Plant" JPMs, no equipment will be operated without Shift Management approval.
4. Satisfactory performance of this JPM is accomplished if:
  - a. The task standard is met.
  - b. JPM completion time requirement is met.
    - 1) For non-time critical JPMs, completion within double the estimated time (listed in paragraph D.2) is acceptable provided the evaluator determines that the progress to completion is acceptable.
    - 2) For time critical JPMs, completion within the estimated time (listed in paragraph D.2) is required.
5. The estimated time to complete this JPM, though listed in the task standard, is not to be given to the examinee.

B. TOOLS AND EQUIPMENT

Synchronizing Switch Key

C. REFERENCES

1. RRC 53.1-2, Rev. 0, "Unit 2 House Loads Transfer During a Plant Event"
2. RRC 94.2-2, Rev. 0, "Plant Reactor Operator Scram Actions"
3. RRC 94.2-2:1, Rev. 0, "PRO Scram Reports"
4. RRC 16.1-2, Rev. 0, "Bypass & Restore Instrument N<sub>2</sub> Supply to Drywell"

D. TASK STANDARD

1. Satisfactory task completion is indicated when the trainee has performed all steps required by RRC 53.1-2, "Unit 2 House Loads Transfer During a Plant Event", RRC 94.2-2, "Plant Reactor Operator Scram Actions", and RRC 94.2-2:1, "PRO Scram Reports".
2. Estimated time to complete: 5 minutes Non-Time Critical

DIRECTIONS TO EXAMINEE

When given the initiating cue, perform Plant Reactor Operator scram actions in accordance with the Operations Manual. I will describe initial plant conditions and provide you access to the materials required to complete this task.

F. TASK CONDITIONS/PREREQUISITES

The plant is in a full power, steady state condition.

G. INITIATING CUE

When reactor scram occurs, the Control Room Supervisor directs you to perform the Plant Reactor Operator scram actions in accordance with the Rapid Response Procedures.



## H. PERFORMANCE CHECKLIST

STEP NO	STEP	ACT	STANDARD
*1	Insert handle and place 225-0105, 11 BKR Sync Switch in ON.  (Cue: Synchroscope is at approximately 12 o'clock, Sync Lights are off and Incoming and Running Voltmeters indicate approximately 120 VAC.)	P	Sync Switch Handle is inserted into control switch 225-0105 and switch is placed in the ON position at panel 20C009.
2	Verify phase angle difference less than 12 degrees.  (Cue: Synchroscope reading is approximately 12 o'clock and Sync Lights are off.)	P	Phase angle difference is verified to be less than 12 degrees on the Synchroscope at panel 20C009.
*3	Close 252-0105, 11 BKR.  (Cue: Acknowledge control switch operation.)	P	11 BKR control switch is momentarily placed in the "CLOSE" position at panel 20C009.
4	Verify 252-0105, 11 BKR is closed.  (Cue: 252-0105 red light is on, green light is off.)	P	11 BKR red light is verified ON and #1 13.2 KV Aux Bus from SU FDRS ammeter rises on panel 20C009.
5	Verify 252-0101, 1 BKR is tripped.  (Cue: 252-0101 green light is on, red light is off.)	P	1 BKR green light is verified ON at panel 20C009.
6	Place 225-0105, 11 BKR Sync switch in OFF and remove handle.  (Cue: Incoming and Running Voltmeters indicate 0 VAC.)	P	225-0105 is placed in the "OFF" position and Sync Switch Handle is removed at panel 20C009.
*7	Insert handle and place 225-0202, 22 BKR Sync Switch in ON.  (Cue: Synchroscope is at approximately 12 o'clock, Sync Lights are off and Incoming and Running Voltmeters at approximately 120 VAC.)	P	Sync Switch Handle is inserted into Control Switch 225-0202 and switch is placed in the "ON" position at panel 20C009.
8	Verify phase angle difference less than 12 degrees.  (Cue: Synchroscope reading is approximately 12 o'clock and Sync Lights are off.)	P	Phase angle difference is verified to be less than 12 degrees on the Synchroscope at panel 20C009.

STEP NO	STEP	ACT	STANDARD
*9	Close 252-0202, 22 BKR.  (Cue: Acknowledge control switch operation.)	P	22 BKR Control Switch is momentarily placed in the "CLOSE" position at panel 20C009.
10	Verify 252-0202, 22 BKR is closed.  (Cue: 252-0202 red light is on, green light is off.)	P	22 BKR red light is verified ON and #2 13.2 KV Aux Bus from SU FDRS ammeter rises on panel 20C009.
11	Verify 252-0214, 2 BKR tripped.  (Cue: 252-0214 green light is on, red light is off.)	P	2 BKR green light is verified ON at panel 20C009.
12	Place 225-0202, 22 BKR Sync Switch in OFF and remove handle.  (Cue: Incoming and Running Voltmeters indicate 0 VAC.)	P	225-0202 is placed in the "OFF" position and Sync Switch Handle is removed at panel 20C009.
13	Green flag 252-0101, 1 BKR control switch.  (Cue: Acknowledge control switch operation, "1 BKR TRIP" annunciator clears.)	P	1 BKR control switch is momentarily placed in the "TRIP" position at panel 20C009.
14	Green flag 252-0214, 2 BKR Control Switch.  (Cue: Acknowledge Control switch operation, #2 BKR TRIP annunciator clears.)	P	2 BKR Control Switch is momentarily placed in the "TRIP" position at panel 20C009.
15	Remove "21 BKR 252-0113" control switch from "Pull to Lock" position and place it in "NORMAL".  (Cue: 225-0113 control switch shows a green flag.)	P	21 BKR control switch is removed from "PTL" and placed in the "NORMAL" position at panel 20C009.
16	Remove "12 BKR 252-0210" control switch from "Pull to Lock" and place it in "NORMAL".  (Cue: 252-0210 control switch shows a green flag.)	P	12 BKR Control Switch is removed from "PTL" and placed in the "NORMAL" position at panel 20C009.

STEP NO	STEP	ACT	STANDARD
*17	Manually trip the Main Turbine when load drops to approximately 50 MWe.  (Cue: Tripped light is on, Reset light is out; Master Trip Solenoid Test Lights A and B are out.)	P	Main Turbine Trip pushbutton is momentarily DEPRESSED at panel 20C008A after generator load drops below 200 MWe on JR-2157 on panel 20C008B and before the Main Generator locks out on reverse power.
18	Verify Main Generator lockout.  (Cue: Main Generator output breakers and Alt Exc Fld Bkr green lights are on, red lights are off. Annunciators 220 B-1 and 220 B-2 are lit.)	P	Main Generator output breakers and Alt Exc Fld Bkr green lights are verified ON at Panel 00C009.
19	Verify Group I, II, and III isolations and verify SBGT initiation as appropriate.  (Cue: If Reactor level dropped to 1", then all Group II and III isolation valves' green lights are on, red lights are off. SBGT system is running correctly.)	P	PCIS Group II and III isolation status is verified at panel 20C003-01, SBGT system status is verified at panel 20C012.
*20	Verify scram discharge volume vents and drains are closed.  (Cue: SDV vent and drain red valve position lights are lit, green valve position lights are NOT lit.)	P	Recognize that SDV vents and drains remain open as indicated on Panel 20C005A or 20C003-01.
*21	Manually close the inboard and outboard SDV vent and drain valves.  (Cue: Acknowledge control switch operation for inboard and outboard SDV vents and drain valves.)	P	Control switch for AO-2-03-032A, 023B and 033 and control switch for AO-203-032B, 035B and 036 are rotated counterclockwise to the close position.
22	Verify scram discharge volume vent and drains are closed.  (Cue: SDV vent and drain green valve position lights are lit, red valve position lights are NOT lit.)	P	SDV vents and drains are verified closed and indicated on panel 20C005A or 20C003-01.
23	Verify Hydrogen Water Chemistry is isolated.  (Cue: FR-8629 flow is 0 scfm.)	P	Hydrogen flow is verified to be at 0 scfm on FR-8629 on panel 20C006A.

STEP NO	STEP	ACT	STANDARD
24	Verify Recirc pump speed has runback to 30%.  (Cue: A and B Recirc MG Set generator speed is 30% on SPI-2-02-184-016A and B.)	P	A and B Recirc MG Set generator speed is verified to be 30% on SPI-2-02-184-016A and B on panel 20C004A.
25	Monitor Instrument Air header pressure and Drywell pressure.  (Cue: Drywell pressure is .3 psig, instrument air header pressure is 105 psig.)	P	Instrument Air header pressure on PI-2425A(B) on panel 20C012 is verified to be greater than Drywell pressure on PR-2508 on Panel 20C003-03 or computer point M026.

**\*\* NOTE \*\***

IF the examinee does NOT report scram actions, THEN inform the examinee that you (the CRS) are ready for his/her scram action report.

26	Report the following to the CRS:  <ul style="list-style-type: none"> <li>House loads transferred.</li> <li>Main Turbine is tripped.</li> <li>Main Generator is locked out.</li> <li>Group II and III isolations complete and SGTS is initiated.</li> <li>SDV vent and drain valves did not initially close and had to be <u>manually</u> closed.</li> <li>Hydrogen Water Chemistry is isolated.</li> <li>Recirc pump speed is 30%.</li> <li>Instrument Air header pressure is greater than Drywell pressure.</li> </ul> (Cue: CRS is informed.)	P	CRS informed of that:  <ul style="list-style-type: none"> <li>House loads transferred.</li> <li>Main Turbine is tripped.</li> <li>Main Generator is locked out.</li> <li>Group II and III isolations complete with SGTS in service.</li> <li>SDV vent and drain valves <u>manually</u> closed.</li> <li>Hydrogen Water Chemistry is isolated.</li> <li>Recirc pump speed is 30%.</li> <li>Instrument Air header pressure is greater than Drywell pressure.</li> </ul>
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**\*\* NOTE \*\***

requested by the examinee, THEN grant permission for the examinee to bypass and restore Drywell Instrument Nitrogen.

STEP NO	STEP	ACT	STANDARD
*** NOTE ***			
is procedurally permissible for a candidate to perform steps 33-35 prior to steps 27-30.			
*27	Place AO-2969A "Drywell Instrument N <sub>2</sub> Supply Valve" in "CLOSE".  (Cue: Acknowledge control switch operation.)	P	AO-2969A control switch is placed in the "CLOSE" position at panel 20C003-03.
28	Verify AO-2969A, "Drywell Instrument N <sub>2</sub> Supply Valve" is closed.	P	AO-2969A green light is verified on at panel 20C003-03.
*29	Place AO-2969B "Drywell Instrument N <sub>2</sub> Supply Valve" in "CLOSE".  (Cue: Acknowledge control switch operation.)	P	AO-2969B control switch is placed in the "CLOSE" position at panel 20C003-03.
30	Verify AO-2969B, "Drywell Instrument N <sub>2</sub> Supply Valve" is closed.	P	AO-2969B green light is verified on at panel 20C003-03.
*33	Place AO-2969A "Drywell Inst N <sub>2</sub> Bypass" Switch in "BYPASS".  (Cue: Acknowledge Bypass switch operation.)	P	AO-2969A Bypass switch is placed in the "BYPASS" position at panel 20C005A.
*34	Place AO-2969B "Drywell Inst N <sub>2</sub> Bypass" switch in "BYPASS".  (Cue: Acknowledge Bypass switch operation.)	P	AO-2969B Bypass switch is placed in the "BYPASS" position at panel 20C005A.
35	Acknowledge the "DRYWELL INST N <sub>2</sub> VALVES ISOLATION BYPASS" annunciator.  (Cue: Annunciator 219 G-1 stops flashing and clears.)	P	The annunciator "ACKNOWLEDGE" pushbutton is depressed at panel 00C024.
*36	Open AO-2969A Drywell Instrument N <sub>2</sub> Supply valve.  (Cue: Acknowledge control switch operation.)	P	AO-2969A control switch is placed in the "OPEN" position at panel 20C003-03.
37	Verify AO-2969A Drywell Instrument N <sub>2</sub> supply valve is open.  (Cue: AO-2969A red light is ON, green light is OFF.)	P	AO-2969A red light is verified ON at panel 20C003-03.

STEP NO	STEP	ACT	STANDARD
*38	Open AO-2969B "Drywell Instrument N <sub>2</sub> Supply" valve.  (Cue: Acknowledge control switch operation.)	P	AO-2969B control switch is placed in the "OPEN" position at panel 20C003-03 panel.
39	Verify AO-2969B "Drywell Instrument N <sub>2</sub> Supply" valve is open.  (Cue: AO-2969B red light is ON, green light is OFF.)	P	AO-2969B red light is verified ON at panel 20C003-03.
40	Report to the Control Room Supervisor the status of Drywell Instrument Nitrogen.  (Cue: Control Room Supervisor acknowledges report.)	P	It is reported that Drywell Instrument Nitrogen is restored.
41	Notify Health Physics of changing plant conditions. (Cue: Health Physics acknowledges report.)	P	Health Physics is notified of the plant scram.
42	Inform Control Room Supervisor of task completion.  (Cue: Control Room Supervisor acknowledges report.)	P	Task completion reported.

Under "ACT" P - must perform  
S - must simulate

#### I. TERMINATING CUE

When all required steps required by RRC 53.1-2, "Unit 2 House Loads Transfer During a Plant Event", RRC 94.2-2, "Plant Reactor Operator Scram Actions", and RRC 94.2-2:1, "PRO Scram Reports" are complete, the Control Room Supervisor should be informed. The evaluator will then terminate the exercise.

## **TASK CONDITIONS/PREREQUISITES**

**The plant is in a full power, steady state condition.**

## **INITIATING CUE**

**When reactor scram occurs, the Control Room Supervisor directs you to perform the Plant Reactor Operator scram actions in accordance with the Rapid Response Procedures.**





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EXELON NUCLEAR  
PEACH BOTTOM ATOMIC POWER STATION  
JOB PERFORMANCE MEASURE

POSITION TITLE: Unit Reactor Operator/Senior Reactor Operator

TASK-JPM DESIGNATOR: 2640020101 / PLOR-001C

K/A: 264000A4.04

URO: 3.7 SRO: 3.7

TASK DESCRIPTION: Diesel Generator Fast Start from the Control Room

A. NOTES TO EVALUATOR:

1. An asterisk (\*) before the step number denotes a CRITICAL STEP. CRITICAL STEPS are those steps which when not performed correctly will prevent the system from functioning properly or prevent successful task completion.
2. System cues included in the performance checklist are to be provided to the examinee when no system response is available.
3. JPM Performance
  - a. "Control Room" JPMs are designed to be performed in the simulator. If a "Control Room" JPM is to be performed in the Control Room all perform steps (P) shall be simulated (S).
  - b. When performing "In-Plant" JPMs, no equipment will be operated without Shift Management approval.
4. Satisfactory performance of this JPM is accomplished if:
  - a. The task standard is met.
  - b. JPM completion time requirement is met.
    - 1) For non-time critical JPMs, completion within double the estimated time (listed in paragraph D.2) is acceptable provided the evaluator determines that the progress to completion is acceptable.
    - 2) For time critical JPMs, completion within the estimated time (listed in paragraph D.2) is required.
5. The estimated time to complete this JPM, though listed in the task standard, is not to be given to the examinee.

**B. TOOLS AND EQUIPMENT**

None

**C. REFERENCES**

Procedure SO 52A.1.B Rev. 21, "Diesel Generator Operations"

**D. TASK STANDARD**

1. Satisfactory task completion is indicated when:
  - a. Diesel Generator Frequency between 58.8 - 61.2 Hz
  - b. Diesel Generator Volts 4.16 - 4.4 KV
  - c. Diesel Generator is ready for Fast Loading
2. Estimated time to complete: 17 minutes Non-Time Critical

**E. DIRECTIONS TO EXAMINEE**

When given the initiating cue, perform necessary steps to Fast Start the E-4 Diesel Generator using appropriate procedures. I will describe initial plant conditions and provide you access to the materials required to complete this task.

**F. TASK CONDITIONS/PREREQUISITES**

1. E-4 Diesel Generator available for operation in accordance with SO 52A.1.A, "Diesel Generator Lineup for Automatic Start"
2. Equipment Operators are standing by in the E-4 D/G Room.
3. GP-23 "Diesel Generator Inoperable", has been reviewed.

**G. INITIATING CUE**

The Control Room Supervisor directs you to Fast Start the E-4 Diesel Generator in accordance with steps 4.3.1 through 4.3.12 of SO 52A.1.B, "Diesel Generator Operations".

## H. PERFORMANCE CHECKLIST

STEP NO	STEP	ACT	STANDARD
1	Obtain a copy of procedure SO 52A.1.B.	P	A copy of procedure SO 52A.1.B is obtained.
2	Direct Equipment Operator to perform pre-start inspection for fast start of E-4 D/G per SO 52A.1.B, steps 4.3.1.1 through 4.3.1.5.  (Cue: Report pre-start checks for E-4 D/G are complete per SO 52A.1.B, steps 4.3.1.1 through 4.3.1.5.)	P	Equipment Operator is contacted to perform pre-start inspection for E-4 D/G per SO 52A.1.B, steps 4.3.1.1 through 4.3.1.5.
*3	Start the E-4 diesel generator by turning and holding the "START MODE" switch (143-DG12) to "MAN" and turn the "START-STOP" switch (101-DG12) to "START".  (Cue: Release the switches. Acknowledge control switch operation.)	P	Turn and hold "Start Mode" switch (143-DG12) to "MAN" and "Start-Stop" switch (101-DG12) to "START" then release both switches at panel 00C026D.
4	Check the E-4 diesel start after 3 minute prelube.  (Cue: 3 minutes for prelube then E-4 D/G volts 4.14 to 4.4 KV, E-4 D/G Frequency 58.8 - 61.2 Hz and annunciator 005 F-4 is alarming.)	P	Wait 3 minutes then verify E-4 Diesel Frequency 58.8 - 61.2 Hz, and E-1 Diesel volts 4.16 - 4.40 KV at panel 00C026D.
5	Acknowledge the "E-4 DIESEL RUNNING" annunciator.  (Cue: Annunciator 005 F-4 is lit solid.)	P	The annunciator "ACKNOWLEDGE" pushbutton is depressed on panel 00C026B.
6	Verify 'A' ESW pump start.  (Cue: 'A' ESW pump red light lit, green light off; discharge pressure is 25 - 64 psig on PI-0236A and motor amps are 22 - 32 amps on 'A' pump ammeter.)	P	'A' ESW pump red light lit, discharge pressure is 25 to 64 psig on PI-0236A and motor amps are 22 to 32 amps on the 'A' pump ammeter are verified at panel 00C026B.

STEP NO	STEP	ACT	STANDARD
7	Verify 'B' ESW pump start.  (Cue: 'B' ESW pump red light lit, green light off; discharge pressure is 25 - 64 psig on PI-0236B and motor amps are 22 - 32 amps on 'B' pump ammeter.)	P	'B' ESW pump red light lit, discharge pressure is 25 to 64 psig on PI-0236A and motor amps are 22 to 32 amps on the 'B' pump ammeter are verified at panel 00C026C.
8	Red flag 'A' (B) ESW pump control switch.  (Cue: Acknowledge control switch operation.)	P	Turns the 'A' (B) ESW pump control switch to "START" and allows the control switch to spring return to normal at panel 00C026B(C).
9	Place control switch for 'B' (A) ESW pump to "STOP".  (Cue: Acknowledge control switch operation.)	P	Turns the 'B' (A) ESW pump control switch to "STOP" and allows the control switch to spring return to "NORMAL" at panel 00C026C(B).
10	Verify 'B' (A) ESW pump is secured.  (Cue: 'B' (A) ESW pump green light lit, pump control switch is green flagged, pump discharge pressure on PI-0236B(A) and motor amps on 'B' (A) pump motor ammeter go to zero.)	P	'B' (A) ESW pump discharge pressure on PI-0236B(A) and amps on 'B' (A) pump ammeter are verified going to zero at panel 00C026C(B).
11	Acknowledge the "EMERGENCY SERVICE WATER PUMP AUTO START" annunciator.  (Cue: Annunciator 002 A-5 is lit solid when acknowledged and clears when reset.)	P	The annunciator "ACKNOWLEDGE" pushbutton is depressed on panel 00C026B.
12	Verify ECW pump has automatically stopped.  (Cue: ECW pump green light lit and motor amps on the EM CLG WTR PP ammeter go to zero.)	P	ECW pump green light lit and ECW pump motor amps on EM CLG WTR PP ammeter are verified going to zero at panel 00C026D.

STEP NO	STEP	ACT	STANDARD
13	Acknowledge the "EMERGENCY COOLING WATER PUMP AUTO START" annunciator.  (Cue: Annunciator 212 B-2 clears.)	P	The annunciator "ACKNOWLEDGE" pushbutton is depressed on panel 20C012.
14	Adjust E-4 D/G engine speed with "GOVERNOR" control switch and voltage output with "AUTO VOLTS. REG." control switch, if required.  (Cue: Frequency is 60 Hz and voltage is 4.28 KV.)	P	E-4 D/G frequency is 58.8 - 61.2 Hz on the E-4 D/G FREQ METER and voltage is 4.16 - 4.40 KV on the E-4 D/G VOLT METER are verified at panel 00C026D.
15	Direct Equipment Operator to verify ESW flow to the D/G by verifying AO-0-33-0241D is open.  (Cue: AO-0-33-0241D is open.)	P	Equipment Operator is contacted to verify ESW flow to the D/G by verifying AO-0-33-0241D is open.
16	Direct Equipment Operator to verify proper generator bearing oil level at LG-7568D.  (Cue: Equipment Operator reports that the generator has normal bearing oil level.)	P	Equipment Operator is contacted to verify proper generator bearing oil level at LG-7568D.
17	Inform Control Room Supervisor of task completion.  (Cue: Control Room Supervisor acknowledges report.)	P	Task completion reported.

Under "ACT" P - must perform  
S - must simulate

#### I. TERMINATING CUE

After the E-4 D/G has been fast started in accordance with Steps 4.3.1 through 4.3.12 of SO 52A.1.B, "Diesel Generator Operations" the Control Room Supervisor should be informed. The evaluator will then terminate the exercise.

## **TASK CONDITIONS/PREREQUISITES**

- 1. E-4 Diesel Generator available for operation in accordance with SO 52A.1.A, "Diesel Generator Lineup for Automatic Start"**
- 2. Equipment Operators are standing by in the E-4 D/G Room.**
- 3. GP-23 "Diesel Generator Inoperable", has been reviewed.**

## **INITIATING CUE**

**The Control Room Supervisor directs you to Fast Start the E-4 Diesel Generator in accordance with steps 4.3.1 through 4.3.12 of SO 52A.1.B, "Diesel Generator Operations".**



(7)

5<sup>7</sup>

EXELON NUCLEAR  
PEACH BOTTOM ATOMIC POWER STATION  
JOB PERFORMANCE MEASURE

POSITION TITLE: Unit Reactor Operator/Senior Reactor Operator

TASK-JPM DESIGNATOR: 2120090101 / PLOR-XXXC

K/A: 212000A4.14

URO: 3.8 SRO: 3.8

TASK DESCRIPTION: Half-Scram Reset

A. NOTES TO EVALUATOR:

1. An asterisk (\*) before the step number denotes a CRITICAL STEP. CRITICAL STEPS are those steps which when not performed correctly will prevent the system from functioning properly or prevent successful task completion.
2. System cues included in the performance checklist are to be provided to the examinee when no system response is available.
3. JPM Performance
  - a. "Control Room" JPMs are designed to be performed in the simulator. If a "Control Room" JPM is to be performed in the Control Room all perform steps (P) shall be simulated (S).
  - b. When performing "In-Plant" JPMs, no equipment will be operated without Shift Management approval.
4. Satisfactory performance of this JPM is accomplished if:
  - a. The task standard is met.
  - b. JPM completion time requirement is met.
    - 1) For non-time critical JPMs, completion within double the estimated time (listed in paragraph D.2) is acceptable provided the evaluator determines that the progress to completion is acceptable.
    - 2) For time critical JPMs, completion within the estimated time (listed in paragraph D.2) is required.
5. The estimated time to complete this JPM, though listed in the task standard, is not to be given to the examinee.



B. TOOLS AND EQUIPMENT

Key for Scram Discharge Volume High Level Bypass Switch.

C. REFERENCES

GP-11E, Rev. 19, "Reactor Protection System - Scram and ARI Reset"

D. TASK STANDARD

1. Satisfactory task completion is indicated when the Reactor Protection System is reset and the Scram Discharge Volume Vent and Drain valves are open.
2. Estimated time to complete: 19 minutes Non-Time Critical

E. DIRECTIONS TO EXAMINEE

When given the initiating cue, perform necessary steps to reset a scram and begin draining the Scram Discharge Volume using appropriate procedures. I will describe initial plant conditions and provide you access to the materials required to complete this task.

F. TASK CONDITIONS/PREREQUISITES

1. Reactor power is 100%.
2. Plant conditions are stable.
3. The "B" RPS bus has been transferred to the normal source after maintenance.
4. The "B" Half-Scram is not reset.
5. Both RPS buses are energized.
6. ARI was NOT initiated.

G. INITIATING CUE

The Control Room Supervisor directs you to reset the half scram in accordance with GP-11.E "Reactor Protection System - Scram and ARI Reset".

## H. PERFORMANCE CHECKLIST

STEP NO	STEP	ACT	STANDARD
1	Obtain a copy of GP-11E, "Reactor Protection System - Scram and ARI Reset".	P	A copy of GP-11E, "Reactor Protection System - Scram and ARI Reset" is obtained.
2	Verify scram initiating signal clear or bypassed.  (Cue: No scram signal annunciators are lit.)	P	No scram signal annunciator lit.
*3	Place Scram Reset switch in Group 1 & 4 position and then the Group 2 & 3 position.  (Cue: Acknowledge reset switch operation.)	P	Scram Reset switch 5A-S9 is taken to the "GROUP 1 & 4", and then "GROUP 2 & 3" positions at panel 20C005A.
4	Verify the four scram group white lights are lit on both the RPS cabinets.  (Cue: All of the scram group white lights are lit on both 20C015 and 20C017.)	P	All scram group white lights verified LIT on panels 20C015 and 20C017.
5	Verify "A CHANNEL AUTO SCRAM" and "B CHANNEL AUTO SCRAM" annunciators are clear.  (Cue: Annunciators 211 B-1 and 211 C-1 are not lit.)	P	"A CHANNEL REACTOR AUTO SCRAM" and "B CHANNEL REACTOR AUTO SCRAM" annunciators are verified clear on alarm panels 211 B-1 and 211 C-1.
*6	Place SDV Outboard Vent and Drain Valves Switch, 5A-S14B, in "OPEN".  (Cue: Acknowledge control switch operation.)	P	The SDV Outboard Vent and Drain Valve control switch 5A-S14B is momentarily placed in the "OPEN" position and then released at panel 20C005A.
7	Verify the SDV Outboard Vent and Drain Valves indicate open.  (Cue: SDV Outboard Vent and Drain Valves red lights are on, green lights are off.)	P	SDV Outboard Vent and Drain Valves red lights are verified ON at panel 20C005A.

STEP NO	STEP	ACT	STANDARD
8	Inform Control Room Supervisor of task completion.  (Cue: Control Room Supervisor acknowledges report.)	P	Task completion reported.

Under "ACT" P - must perform  
S - must simulate

#### I. TERMINATING CUE

When the scram is reset and the Scram Discharge Volume Vents and Drains are open, the Control Room Supervisor should be informed. The evaluator will then terminate the exercise.

## **TASK CONDITIONS/PREREQUISITES**

- 1. Reactor power is 100%.**
- 2. Plant conditions are stable.**
- 3. The "B" RPS bus has been transferred to the normal source after maintenance.**
- 4. The "B" Half-Scram is not reset.**
- 5. Both RPS buses are energized.**
- 6. ARI was NOT initiated.**

## **INITIATING CUE**

**The Control Room Supervisor directs you to reset the half scram in accordance with GP-11.E "Reactor Protection System - Scram and ARI Reset".**



8

PECO NUCLEAR  
PEACH BOTTOM ATOMIC POWER STATION  
JOB PERFORMANCE MEASURE

POSITION TITLE: Unit Reactor Operator/Senior Reactor Operator

TASK-JPM DESIGNATOR: 2003810599 / PLOR-127P

K/A: 2.4.35

URO: 3.3    SRO: 3.5

TASK DESCRIPTION: Isolating and Venting Scram Air Header - Unit 2 (T-214-2)

A. NOTES TO EVALUATOR:

1. An asterisk (\*) before the step number denotes a CRITICAL STEP. CRITICAL STEPS are those steps which when not performed correctly will prevent the system from functioning properly or prevent successful task completion.
2. System cues included in the performance checklist are to be provided to the examinee when no system response is available.
3. JPM Performance
  - a. "Control Room" JPMs are designed to be performed in the simulator. If a "Control Room" JPM is to be performed in the Control Room all perform steps (P) shall be simulated (S).
  - b. When performing "In-Plant" JPMs, no equipment will be operated without Shift Management approval.
4. Satisfactory performance of this JPM is accomplished if:
  - a. The task standard is met.
  - b. JPM completion time requirement is met.
    - 1) For non-time critical JPMs, completion within double the estimated time (listed in paragraph D.2) is acceptable provided the evaluator determines that the progress to completion is acceptable.
    - 2) For time critical JPMs, completion within the estimated time (listed in paragraph D.2) is required.
5. The estimated time to complete this JPM, though listed in the task standard, is not to be given to the examinee.

B. TOOLS AND EQUIPMENT

1. EOP Locker Key
2. T-214-2 Tool Package

C. REFERENCES

Procedure T-214-2, Rev. 6, "Isolating and Venting the Scram Air Header"

D. TASK STANDARD

1. Satisfactory task completion is indicated when the Unit 2 scram air header has been isolated and vented.
2. Estimated time to complete: 8 minutes Non-Time Critical

E. DIRECTIONS TO EXAMINEE

When given the initiating cue, perform necessary steps to isolate and vent the Unit 2 scram air header using appropriate procedures. I will describe initial plant conditions and provide you access to the materials required to complete this task.

F. TASK CONDITIONS/PREREQUISITES

1. A partial loss of feed flow on Unit 2 results in RPV level dropping below the scram setpoint.
2. Control Rods did NOT insert.
3. Blue scram lights on the full core display are NOT lit.
4. Scram air header PI-2-03-312 on panel 20C124 reads 70 psig.
5. TRIP procedures have directed that the scram air header be depressurized.

G. INITIATING CUE

The Control Room Supervisor directs you, the Equipment Operator to perform T-214-2 "Isolating and Venting the Scram Air Header" on Unit 2.

## H. PERFORMANCE CHECKLIST

STEP NO	STEP	ACT	STANDARD
*1	Obtain the key for the Emergency Operating Procedure Tool Locker. (Cue: When examinee requests EOP Tool Locker key from WCS <u>OR</u> examinee identifies the location of the WCS keybox and its associated key then evaluator should provide the EOP Tool Locker key.)	S	Emergency Operating Procedure Tool Locker Key requested from WCS <u>OR</u> examinee identifies the location of the WCS keybox and its associated key.
*2	Open Emergency Operating Procedure Tool Locker and obtain T-214 Tool Kit.  (Cue: Equipment obtained.)	P	Tool Locker located on Radwaste Building El. 165' is unlocked, opened and T-214 Tool Kit located.
<p align="center"><b>****NOTE****</b></p> <p><b>When examinee locates tool kit, inform him that he now has the tools to perform the procedure. Provide the examinee with a copy of the T-200 procedure which corresponds to the tool kit that has been chosen. <u>DO NOT</u> allow tools to be removed from the locker. Relock the locker before leaving the area.</b></p>			
*3	Close HV-2-3-123, Instr Air Header Block Vlv to Scram Pilot Valve Header.  (Cue: Valve handwheel is turned [CLOCKWISE] until stem length above valve yoke lowers 1 inch then handwheel will not turn.)	S	HV-2-3-123 handwheel is turned CLOCKWISE until resistance of valve seat is felt. (Located on RB Unit 2 135', CRD Valve Nest.)
4	Verify closed IDV-2-3-312, PS-2-03-230 + PS-2-03-229 Instrument Drain Valve.  (Cue: [CLOCKWISE] Valve handwheel did not move and stem length above valve yoke did not move.)	S	IDV-2-3-312 handwheel movement is attempted in the CLOCKWISE direction.



STEP NO	STEP	ACT	STANDARD
*5	Remove the cap from IDV-2-3-312.  (Cue: Pipe cap is turned [COUNTERCLOCKWISE] until cap is removed.)	S	Pipewrench from Tool Kit is placed on IDV-2-3-312 pipe cap and is turned COUNTERCLOCKWISE until pipe cap is removed from pipe.
*6	Open IDV-2-3-312.  (Cue: Valve is turned [COUNTERCLOCKWISE] until stem length above valve yoke raises 3 inch then will not turn, flow noise can be heard as valve is opened.	S	IDV-2-3-312 is turned COUNTERCLOCKWISE until resistance of valve backseat is felt.
7	Inform Control Room of task completion.  (Cue: Control Room acknowledges report.)	S	Task completion reported using telephone, hand held radio, or GAI-TRONICS page system.

Under "ACT" P - must perform  
S - must simulate

#### I. TERMINATING CUE

When the Unit 2 scram air header has been isolated and vented, the Control Room Supervisor should be informed. The evaluator will then terminate the exercise.

## **TASK CONDITIONS/PREREQUISITES**

- 1. A partial loss of feed flow on Unit 2 results in RPV level dropping below the scram setpoint.**
- 2. Control Rods did NOT insert.**
- 3. Blue scram lights on the full core display are NOT lit.**
- 4. Scram air header PI-2-03-312 on panel 20C124 reads 70 psig.**
- 5. TRIP procedures have directed that the scram air header be depressurized.**

## **INITIATING CUE**

**The Control Room Supervisor directs you, the Equipment Operator to perform T-214-2 “Isolating and Venting the Scram Air Header” on Unit 2.**



9

EXELON NUCLEAR  
PEACH BOTTOM ATOMIC POWER STATION  
JOB PERFORMANCE MEASURE

POSITION TITLE: Unit Reactor Operator/Senior Reactor Operator

TASK-JPM DESIGNATOR: 0201710040/ PLOR-054-2P

K/A: 218000A2.03

URO: 3.4 SRO: 3.6

TASK DESCRIPTION: Backup Instrument Nitrogen to ADS System Startup and Operation

A. NOTES TO EVALUATOR:

1. An asterisk (\*) before the step number denotes a CRITICAL STEP. CRITICAL STEPS are those steps which when not performed correctly will prevent the system from functioning properly or prevent successful task completion.
2. System cues included in the performance checklist are to be provided to the examinee when no system response is available.
3. JPM Performance
  - a. "Control Room" JPMs are designed to be performed in the simulator. If a "Control Room" JPM is to be performed in the Control Room all perform steps (P) shall be simulated (S).
  - b. When performing "In-Plant" JPMs, no equipment will be operated without Shift Management approval.
4. Satisfactory performance of this JPM is accomplished if:
  - a. The task standard is met.
  - b. JPM completion time requirement is met.
    - 1) For non-time critical JPMs, completion within double the estimated time (listed in paragraph D.2) is acceptable provided the evaluator determines that the progress to completion is acceptable.
    - 2) For time critical JPMs, completion within the estimated time (listed in paragraph D.2) is required.
5. The estimated time to complete this JPM, though listed in the task standard, is not to be given to the examinee.

B. TOOLS AND EQUIPMENT

None

C. REFERENCES

Procedure SO 16A.1.A-3 Rev. 4, "Backup Instrument Nitrogen to ADS Startup and Operation".

D. TASK STANDARD

1. Satisfactory task completion is indicated when backup Instrument Nitrogen to ADS has been lined up locally.
2. Estimated time to complete: 23 minutes Non-Time Critical

E. DIRECTIONS TO EXAMINEE

When given the initiating cue, perform necessary steps to line up Backup Instrument Nitrogen to the ADS relief valves using SO 16A.1.A-3, "Backup Instrument Nitrogen to ADS Startup and Operation". I will describe initial plant conditions and provide you access to the materials required to complete this task.

F. TASK CONDITIONS/PREREQUISITES

1. The Prerequisites listed in SO 16A.1.A-3, "Backup Instrument Nitrogen to ADS Startup and Operation" are met.
2. COL 16A.1.A-3, "Backup Instrument Nitrogen to ADS System" has been performed.

G. INITIATING CUE

The Control Room Supervisor directs you, the Equipment Operator, to perform SO 16A.1.A-3, "Backup Instrument Nitrogen to ADS Startup and Operation" in order to lineup Backup Instrument Nitrogen to the Unit 3 ADS relief valves.

## H. PERFORMANCE CHECKLIST

STEP NO	STEP	ACT	STANDARD
1	Obtain a copy of procedure SO 16A.1.A-3.	P	A copy of procedure SO 16A.1.A-3 is obtained.
<p align="center"><b>****NOTE****</b></p> <p><b>Inform the examinee the individual bottle PCV outlet pressure indicators and header pressure indicator (PI-9130) read zero psig. Individual bottle pressures indicate 2200 psig.</b></p>			
*2	Slowly open the nitrogen bottle isolation valves for 3AS377, 3BS377 and 3CS377.  (Cue: Acknowledge isolation valve operation.)	S	Nitrogen bottle isolation valves 16A-33331A, 16A-33331B and 16A-33331C are slowly turned in the counterclockwise direction.
*3	Adjust nitrogen bottle 3AS377 pressure control valve to obtain $\geq 85$ psig.  (Cue: Acknowledge PCV operation, pressure indicator for bottle 3AS377 indicates 85 psig.)	S	PCV-3-16A-9917A handle is turned clockwise until $\geq 85$ psig is obtained on bottle 3AS377 pressure indicator.
*4	Adjust nitrogen bottle 3BS377 pressure control valve to obtain $\geq 85$ psig.  (Cue: Acknowledge PCV operation, pressure indicator for bottle 3BS377 indicates 85 psig.)	S	PCV-3-16A-9917B handle is turned clockwise until $\geq 85$ psig is obtained on bottle 3BS377 pressure indicator.
*5	Adjust nitrogen bottle 3CS377 pressure control valve to obtain $\geq 85$ psig.  (Cue: Acknowledge PCV operation, pressure indicator for bottle 3CS377 indicates 85 psig.)	S	PCV-3-16A-9917C handle is turned clockwise until $\geq 85$ psig is obtained on bottle 3CS377 pressure indicator.
6	Request URO to verify Backup Nitrogen is $\geq 85$ psig on PI-9142.  (Cue: Unit Reactor Operator acknowledges request and reports that PI-9142 indicates 85 psig.)	S	Control Room is requested via telephone, radio, or GAI-TRONICS page system to verify that backup nitrogen pressure is $\geq 85$ psig on PI-9142.

STEP NO	STEP	ACT	STANDARD
7	Inform Control Room Supervisor of task completion.  (Cue: Control Room Supervisor acknowledges report.)	S	Task completion reported using telephone, hand held radio, or GAI-TRONICS page system.

Under "ACT" P - must perform  
S - must simulate

#### I. TERMINATING CUE

When the Backup Instrument Nitrogen to ADS System has been lined up locally and the URO verifies  $\geq 85$  psig Backup Instrument Nitrogen pressure indication, the Control Room Supervisor should be informed. The evaluator will then terminate the exercise.

## **TASK CONDITIONS/PREREQUISITES**

- 1. The Prerequisites listed in SO 16A.1.A-3, "Backup Instrument Nitrogen to ADS Startup and Operation" are met.**
- 2. COL 16A.1.A-3, "Backup Instrument Nitrogen to ADS System" has been performed.**

## **INITIATING CUE**

**The Control Room Supervisor directs you, the Equipment Operator, to perform SO 16A.1.A-3, "Backup Instrument Nitrogen to ADS Startup and Operation" in order to lineup Backup Instrument Nitrogen to the Unit 3 ADS relief valves.**





(10)

5 10

EXELON NUCLEAR  
PEACH BOTTOM ATOMIC POWER STATION  
JOB PERFORMANCE MEASURE

POSITION TITLE: Unit Reactor Operator/Senior Reactor Operator

TASK-JPM DESIGNATOR: 2390110401 / PLOR-312PA K/A: 2.1.20  
URO: 4.3 SRO: 4.2

TASK DESCRIPTION: Closing a Stuck Open MSIV - Alternate Path (Unit 2)

A. NOTES TO EVALUATOR:

1. An asterisk (\*) before the step number denotes a CRITICAL STEP. CRITICAL STEPS are those steps which when not performed correctly will prevent the system from functioning properly or prevent successful task completion.
2. System cues included in the performance checklist are to be provided to the examinee when no system response is available.
3. JPM Performance
  - a. "Control Room" JPMs are designed to be performed in the simulator. If a "Control Room" JPM is to be performed in the Control Room all perform steps (P) shall be simulated (S).
  - b. When performing "In-Plant" JPMs, no equipment will be operated without Shift Management approval.
4. Satisfactory performance of this JPM is accomplished if:
  - a. The task standard is met.
  - b. JPM completion time requirement is met.
    - 1) For non-time critical JPMs, completion within double the estimated time (listed in paragraph D.2) is acceptable provided the evaluator determines that the progress to completion is acceptable.
    - 2) For time critical JPMs, completion within the estimated time (listed in paragraph D.2) is required.
5. The estimated time to complete this JPM, though listed in the task standard, is not to be given to the examinee.

B. TOOLS AND EQUIPMENT

Fuse Pullers

REFERENCES

AO 1A.2-2, Rev. 5, "Closing a Stuck Open Outboard Main Steam Isolation Valve"

D. TASK STANDARD

1. Satisfactory task completion is indicated when the Unit 2 Reactor Building 135' Elevation Instrument Air header has been vented.
2. Estimated time to complete: 22 minutes Non-Time Critical

E. DIRECTIONS TO EXAMINEE

When given the initiating cue, perform necessary steps to close the stuck open outboard MSIVs using AO 1A.2-3, "Closing a Stuck Open Outboard MSIV". I will describe initial plant conditions and provide you access to the materials required to complete this task.

F. TASK CONDITIONS/PREREQUISITES

1. Unit 2 has just been manually scrammed.
2. RPV level is -175 inches.
3. All outboard MSIVs failed to isolate.
4. Radiological conditions do NOT allow entry into the Outboard MSIV Room.
5. Proper operation of SGIG system has been verified in accordance with SO 16B.8.A-3, "Backup Seismic Instrument Nitrogen Routine Inspection".

G. INITIATING CUE

The Control Room Supervisor directs you to close the Unit 2 outboard MSIVs in accordance with AO 1A.2-2, "Closing a Stuck Open Outboard MSIV", beginning with step 4.1.

## H. PERFORMANCE CHECKLIST

STEP NO	STEP	ACT	STANDARD
1	Obtain a copy of procedure AO 1A.2-2.	P	A copy of procedure AO 1A.2-2 is obtained.
<p align="center"><b>** NOTE **</b></p> <p align="center">Examinee should utilize sections 4.1 <u>AND</u> 4.3 of AO 1A.2-2.</p>			
2	Open panel 20C042 front panel doors. (Cue: Panel 20C042 doors are open.)	P	Door handle turned, doors pulled outward to gain access to the outboard MSIV AC and DC solenoid valve fuses at the front of panel 20C042 in the Cable Spreading Room.
3	Pull the outboard MSIV AC solenoid valve fuse 16A-F12B. (Cue: Fuse is removed.)	S	Fuse puller is attached to outboard MSIV AC solenoid valve fuse 16A-F12B fuse if pulled outward until fuse is free of fuse holder.
4	Request the Unit Reactor Operator to monitor outboard MSIV position indication. (Cue: Outboard MSIVs are open.)	S	Unit Reactor Operator is contacted to monitor outboard MSIV position indication.
5	Pull the outboard MSIV DC solenoid valve fuse 16A-F11B. (Cue: Fuse is removed.)	S	Fuse puller is attached to outboard MSIV DC solenoid valve fuse 16A-F11B. Fuse is pulled outward until fuse is free of fuse holder.
6	Request the Unit Reactor Operator to monitor Main Steam line flow using FI-2-06-088A,B,C,D on panel 20C008A.  (Cue: Main Steam line FI-2-06-088A,B,C,D are <u>NOT</u> reading downscale. Position indication for all outboard MSIVs has been lost.)	S	Unit Reactor Operator is contacted to monitor Main Steam line flow on FI-2-06-088A,B,C,D at panel 20C008A.
7	Install fuse 16A-F11B. (Cue: Fuse is installed.)	S	Fuse puller is attached to outboard MSIV DC solenoid valve fuse 16A-F11B. Fuse is inserted until fuse is installed in fuse holder.
8	Close panel 20C042 front panel doors. (Cue: Panel 20C042 doors are closed.)	P	Door closed and relatched using handle.

STEP NO	STEP	ACT	STANDARD
9	Request the Unit Reactor Operator to verify RWCU isolation.  (Cue: RWCU is isolated.)	S	Unit Reactor Operator is contacted to verify RWCU isolation.
10	Direct the Unit Reactor Operator to open Backup N <sub>2</sub> to ADS valves SV-8130A and B in accordance with SO 16A.7.A-2.  (Cue: SV-8130A and B are open.)	S	Unit Reactor Operator is contacted to verify Backup N <sub>2</sub> to ADS valves SV-8130A and B in accordance with SO 16A.7.A-2.
*11	Close Instrument Air A(B) Header Isolation valves HV-2-36B-46981A <u>AND</u> HV-2-36B-46981B.  (Cue: The valve handwheels have been turned clockwise until they will turn no further.)	S	HV-2-36B-46981A and HV-2-36-46981B handwheels turned clockwise until the resistance of the valve seats are felt at the 2A Recirc MG Set area.
12	Verify open Instrument Air Supply to DT-4695 Inlet Block valves HV-2-36B-44642 and HV-2-36B-44643.  (Cue: The valve handwheels are turned slightly in the clockwise direction and then turned counterclockwise to their original position.	S	HV-2-36B-44642 and HV-2-36B-44643 handwheels are turned slightly in the clockwise direction and then turned counterclockwise to their original position at the 2B Recirc MG Set area.
13	Notify MCR that venting is commencing <u>AND</u> to perform more frequent monitoring of MSIV position.	S	URO contacted to monitor MSIV position.
*14	Simultaneously press and hold Drain Trap Bypass switches HS-2-36B-4695 <u>AND</u> HS-2-36B-4696.  (Cue: HS-2-36B-4695 <u>AND</u> HS-2-36B-4696 are simultaneously depressed and held.)	S	Drain Trap Bypass pushbuttons HS-2-36B-4695 <u>AND</u> HS-2-36B-4696 are simultaneously depressed and held at the 2B Recirc MG Set area.

STEP NO	STEP	ACT	STANDARD
15	When contacted by the Unit Reactor Operator that the MSIVs are closed, the switches are released.  (Cue: All outboard MSIVs indicated closed. Main Steam line flow indicators are downscale. The drain trap pushbuttons are released.)	S	Upon receiving report that the outboard MSIVs are closed, the drain trap pushbuttons are released.
16	Inform Control Room of task completion.  (Cue: Control Room acknowledges report. Outboard MSIVs are closed.)	S	Task completion reported using telephone, hand held radio or GAI-TRONICS page system.

Under "ACT" P - must perform  
S - must simulate

#### I. TERMINATING CUE

When the Unit 2 outboard MSIVs are closed, the Control Room Supervisor should be informed. The evaluator will then terminate the exercise.

## **TASK CONDITIONS/PREREQUISITES**

- 1. Unit 2 has just been manually scrammed.**
- 2. RPV level is -175 inches.**
- 3. All outboard MSIVs failed to isolate.**
- 4. Radiological conditions do NOT allow entry into the Outboard MSIV Room.**
- 5. Proper operation of SGIG system has been verified in accordance with SO 16B.8.A-3, "Backup Seismic Instrument Nitrogen Routine Inspection".**

## **INITIATING CUE**

**The Control Room Supervisor directs you to close the Unit 2 outboard MSIVs in accordance with AO 1A.2-2, "Closing a Stuck Open Outboard MSIV", beginning with step 4.1.**