

<b>Facility:</b> Cooper Nuclear Station		<b>Date of Exam:</b> December 04, 2000	
<b>Exam Level:</b> RO/SRO-I		<b>Operating Test No.:</b> _____	
<b>B.1 Control Room Systems</b>			
System/JPM Title		Type Code*	Safety Function
a.	Reactor Feedwater / Reactor Feed Pump Quick Start (Cond/Feed 34-20-93) Simulator	D,A	2
b.	Level Recovery During S/D Using LPCI (RHR-34-20-08) Simulator	D, A	4
c.	SGT Heat Removal with Group 6 Isolation Signal Simulator	N	9
d.	APRM Gain Adjustment (APRM 34-20-18) Simulator	M, A	7
e.	Transfer Bus 1A from S/U Trans to Normal Trans Simulator	N,L	6
f.	Operate CRD to make the Reactor Critical (CRD 34-20-67) Simulator	D,L	1
g.	Primary Containment Venting for PCPL (PC 34-20-25) Simulator	D	5
<b>B2. Facility Walk-Through</b>			
System/JPM Title		Type Code*	Safety Function
a.	Remote Shutdown / Establish Suppression Pool Cooling from the Alternate Remote Shutdown Panel (ASD 34-20-59) Plant	D, Emergency	5
b.	Diesel Generator / Fast Start DG-1 from the Local Panel (DG 34-10-18) Plant	D, A	6
c.	Control Rod Drive / Insert Control Rod by venting the Scram Air Header (EOP Support 34-10-65) Plant	D, Emergency	1
* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (L)ow power			

<b>Facility:</b> Cooper Nuclear Station		<b>Date of Exam:</b> December 04, 2000	
<b>Exam Level:</b> SRO-U		<b>Operating Test No.:</b> _____	
<b>B.1 Control Room Systems</b>			
System/JPM Title		Type Code*	Safety Function
a.	SGT Heat Removal with Group 6 Isolation Signal Simulator	N	9
b.	APRM Gain Adjustment (APRM 34-20-18) Simulator	M, A	7
c.	Level Recovery During S/D Using LPCI (RHR-34-20-08) Simulator	D, A	4
<b>B2. Facility Walk-Through</b>			
System/JPM Title		Type Code*	Safety Function
a.	Remote Shutdown / Establish Suppression Pool Cooling from the Alternate Remote Shutdown Panel (ASD 34-20-59) Plant	D, Emergency	5
b.	Control Rod Drive / Insert Control Rod by venting the Scram Air Header (EOP Support 34-10-65) Plant	D, Emergency	1
* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (L)ow power			

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

Task No.: 259058G401

=====  
**Task Title:** Perform a Quick Restart of RFPT A  
=====

Trainee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Pass: \_\_\_\_\_ Fail: \_\_\_\_\_ Examiner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Additional Program Information:**

**\*\* FAULTED—FAULTED—FAULTED\*\***

**\*\* ENSURE THAT THE DISCHARGE VALVE MO-29 IS OPEN \*\***

1. Appropriate Performance Locations: CR/SIM
2. Appropriate Trainee level: RO/SRO
3. Evaluation Method:  Simulate  Perform
4. Performance Time: 15 minutes
5. Importance Rating: 3.13
6. NRC K/A 295001 A4.02 (3.9/3.7)

**Directions to Examiner:**

1. This JPM evaluates the trainee's ability to perform a quick start of a RFPT
2. The examiner is to obtain the "JPM Comment Form" (Attachment C of ODG 206) prior to administering the JPM.
3. If this JPM is performed on the Simulator, only the cues preceded by "#" should be given.
4. Observe the trainee during performance of the JPM for proper use of self-checking methods.
5. All blanks must be filled out with either initials or an "NP" for "not performed"; an explanation may also be written in the space if desired by the examiner.
6. Brief the trainee, place the simulator in run, and tell the trainee to begin.

**Directions to Trainee:**

When I tell you to begin, you are to perform a quick start of the "A" RFPT. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to perform a quick start of "A" RFPT. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

=====  
**General Conditions:**

1. "A" RFPT has just been removed from service to repair packing leak on HP stop valve
2. Vibrations are rising on RFPT "B"

## JOB PERFORMANCE MEASURE FOR OPERATIONS

Task No.: 259058G401

=====  
**Task Title:** Perform a Quick Restart of RFPT A  
=====

### General References:

1. Procedure 2.2.28
7. Procedure 2.2.28.1

### General Tools and Equipment:

1. None

### Special Conditions, References, Tools, Equipment:

1. Simulator Setup: See Attachment 1.
2. Critical checks denoted by "\*".
3. Simulator cues denoted by "#".

### Task Standards:

1. Accurately locate, identify, operate and/or manipulate all component controls required to be utilized to perform a quick start of "A" RFPT.
2. Accurately locate and identify all instrumentation required to be monitored to perform a quick start of "A" RFPT.
3. Correctly interpret instrument and system responses and their interrelationships when performing a quick start of "A" RFPT.

### Initiating Cue(s):

The Control Room Supervisor directs you to place RFPT "A" in service using the quick start procedure 2.2.28.1, Section 19 and inject into the reactor vessel. Notify CRS once this has been completed.

NOTE: Place the Simulator in RUN and tell the trainee to begin.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

Task No.: 259058G401

=====  
**Task Title:** Perform a Quick Restart of RFPT A  
 =====

Performance Checklist	Standards	Initials
1. Ensure trips are reset	Ensure following RFPT A trips are reset: Suction pressure $\geq$ 260 psig. *Exhaust casing temperature $<$ 230°F. Main Condenser vacuum $\geq$ 7" Hgv. Bearing oil pressure $>$ 10 psig. Reactor water level $\leq$ 54". *Thrust bearing wear pressure $<$ 10 psig. At Panel 9-5, ensure HIGH WATER LEVEL TRIPS are reset.	_____*
	* Not directly read-Alarms on A-1 are cleared	
	CUE: All trips are reset.	_____*
2. FW Controller in Manual at 45%	At Panel 9-5, ensure RFC-MA-84A, FW CONTROLLER STATION A, is in MAN and adjusted to minimum (45% FW DEMAND displayed on RFPT A STARTUP STATION).	_____*
	CUE: "A" FW Controller in Manual at 45%	_____*
3. Startup Station Switch Setup	At RFPT A STARTUP STATION A, ensure following:  MANUAL STARTUP RATE SELECTOR switch in 4. STARTUP MODE SELECTOR switch in MANUAL S/U. STARTUP DEMAND is AT A MINIMUM (10%).	_____*
	CUE: MANUAL STARTUP RATE SELECTOR switch in 4. STARTUP MODE SELECTOR switch in MANUAL S/U. STARTUP DEMAND AT A MINIMUM (10%).	_____*
4. Ensure RF-11A is OPEN	Ensure RF-11A, MIN FLOW VALVE, is open.	_____*
	CUE: RF-11A Red light is <b>on</b> and Green light <b>off</b>	_____*
5. Reset A RFPT (FAULTED-will not reset)	Press and hold RFPT A TRIP RESET Button until RFPT A HP and LP STOP valves are open.	_____*
	CUE: Valves are not open; HP and LP STOP valves red light are <b>off</b> Green lights are <b>on</b> .	_____*

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

Task No.: 259058G401

=====  
**Task Title:** Perform a Quick Restart of RFPT A  
 =====

Performance Checklist	Standards	Initials
6.	<p>If RFPT does <u>not</u> reset, press and hold RFPT A OVERSPEED TRIP BLOCK and RFPT A OVERSPEED TRIP RESET.</p> <p>CUE: HP and LP STOP valves red light are <b>on</b> Green lights are <b>off</b>.</p>	_____*
7.	<p>Checking the Reset light</p>	_____
<p>Check light above RFPT A TRIP RESET button is on.</p> <p>CUE: The light is on.          NOTE: RFPT "Stratup Station Turbine Speed" display indicates LO until RFPT A speed reaches ~900 RPM</p>		
8.	<p>Checking FW lineup.</p>	_____
<p>Ensure Feedwater System lineup on Panel A is correct</p> <p>CUE: Startup valves are Open, Discharge valves are Closed.</p>		
9.	<p>Raise "A" RFPT speed.</p>	_____*
<p>Raise RFPT A speed observing critical speeds (lower amber marks on turbine speed meter) by placing MANUAL STARTUP SPEED CONTROL switch to RAISE until ~3500 RPM.</p> <p>CUE: Speed is 3500 RPM</p>		
10.	<p>Raise speed of 1A RFPT.</p>	_____*
<p>When operating RFPT STARTUP DEMAND is 45%, perform following:</p> <p>Check STARTUP IN SERVICE green LED is off.          Check FEEDWATER IN SERVICE green LED is on.          Raise STARTUP DEMAND to 50% with MANUAL STARTUP SPEED CONTROL switch and check RFPT speed is controlled by RFC-MA-84A.          Raise STARTUP DEMAND to 95% with MANUAL STARTUP SPEED CONTROL switch.</p> <p>CUE: STARTUP DEMAND indicates 95%.</p>		
11.	<p>Injecting to RPV.</p>	_____*
<p>Adjust manual control on RFC-MA-84A and check RFP is feeding the vessel.</p> <p>CUE: "A" and "B" feedwater flow indicates ~5 Milb/hr.</p>		

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

Task No.: 259058G401

=====  
**Task Title:**      Perform a Quick Restart of RFPT A  
=====

<b>Performance Checklist</b>	<b>Standards</b>	<b>Initials</b>
12.      Inform the CRS that the task is Complete.	Inform the Control Room Supervisor that 1A RFP has been restarted and injecting into the RPV  #CUE: CRS acknowledges the report. This JPM is complete.	_____

## ATTACHMENT 1

### SIMULATOR SET-UP

A. Materials Required

None

B. Initialize the Simulator in IC-18

Batch File Name - none.

C. Change the simulator conditions as follows:

1. Triggers

None

2. Malfunctions

**Ensure that Discharge Valve MO-29 is Open**

3. Remotes

None

4. Overrides

None

5. Panel Setup

a. Place the Simulator in run.

b. Place the Mode Switch to Shutdown.

c. Place 1A RFP in manual and raise injection until both RFP trip on high level.

d. Secure two Condensate and Condensate Booster pumps.

e. Insert malfunction RR19 at 100%.

f. Place the Simulator in FREEZE.

Note: If this JPM is to be performed more than once, snap the simulator into IC-0 after the panel setup is complete.

## ATTACHMENT 2

### Directions to Trainee:

When I tell you to begin, you are to perform a quick start of the “A” RFPT. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to perform a quick start of “A” RFPT. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

### General Conditions:

1. “A” RFPT has just been removed from service to repair packing leak on HP stop valve
2. Vibrations are rising on RFPT “B”

### Initiating Cues:

The Control Room Supervisor directs you to place RFPT “A” in service using the quick start procedure 2.2.28.1, Section 19 and inject into the reactor vessel. Notify CRS once this has been completed.

**ATTACHMENT 3**

**THIS PAGE MAY BE GIVEN TO THE CANDIDATE**

**Directions to Trainee:**

When I tell you to begin, you are to perform a quick start of the "A" RFPT. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to perform a quick start of "A" RFPT. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

**General Conditions:**

1. "A" RFPT has just been removed from service to repair packing leak on HP stop valve
2. Vibrations are rising on RFPT "B"

**Initiating Cues:**

The Control Room Supervisor directs you to place RFPT "A" in service using the quick start procedure 2.2.28.1, Section 19 and inject into the reactor vessel. Notify CRS once this has been completed.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

Task No.: 203030A0401

=====  
**Task Title:** LEVEL RECOVERY DURING SHUTDOWN CONDITIONS USING LPCI  
=====

Trainee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Pass: \_\_\_\_\_ Fail: \_\_\_\_\_ Examiner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Additional Program Information:**

**\*\*FAULTED—FAULTED—FAULTED—FAULTED\*\***

1. Appropriate Performance Locations: CR/SIM
2. Appropriate Trainee Level: RO/SRO
3. Evaluation Method: \_\_\_\_\_ Simulate \_\_\_\_\_ Perform
4. Performance Time: Non-faulted 15 minutes; faulted 20 minutes
5. Importance Rating: 3.5
6. NRC K/A 203000 A4.05 4.3/4.1

**Directions to Examiner:**

NOTE: IF PERFORMING THE FAULTED JPM, USE STEPS 7a THROUGH 7f PRECEDED BY "◆"  
INSTEAD OF STEP 7.

1. This JPM evaluates the trainee's ability to start the RHR system in the LPCI Mode and recover RPV level from an inadvertent drain down resulting in SDC Isolation .
2. The examiner is to obtain the "JPM Comment Form" (Attachment C of ODG 206) prior to administering the JPM.
3. If this JPM is performed on the Simulator, only the cues preceded by "#" should be given.
4. Observe the trainee during performance of the JPM for proper use of self-checking methods.
5. All blanks must be filled out with either initials or an "NP" for "not performed"; an explanation may also be written in the space if desired by the examiner.
6. Brief the trainee, place the simulator in run, and tell the trainee to begin.

**Directions to Trainee:**

When I tell you to begin, you are to recover reactor water level using LPCI Loop A. Before you start, I will state the general plant conditions, the initiating cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to recover reactor water level using LPCI. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

=====  
**General Conditions:**

1. The plant is in cold shutdown.
2. Level dropped to approximately 100 inches on fuel zone indicators NBI-LI-91A and NBI-LI-91B before a valve lineup error was corrected.
3. RHR Loop B was in Shutdown Cooling mode prior to the RPV level drop.
4. RHR Loop A is in a LPCI standby lineup with suction from the Torus.
5. All prerequisites have been met and procedure 2.2.69.1 has been completed through step 8.1.5.

## JOB PERFORMANCE MEASURE FOR OPERATIONS

Task No.: 203030A0401

=====

**Task Title:** LEVEL RECOVERY DURING SHUTDOWN CONDITIONS USING LPCI

=====

### General References:

1. Procedure 2.2.69.1
2. NRC Bulletin 93-02 Supplement 1, Debris Plugging of ECCS Strainers

### General Tools and Equipment:

1. None.

### Special Conditions, References, Tools, Equipment:

1. Simulator Setup: See Attachment 1.
2. Critical checks denoted by "\*".
3. Simulator cues denoted by "#".
4. Faulted steps denoted by "◆".

### Task Standards:

1. Accurately locate, identify, operate and/or manipulate all component controls required to be utilized to recover reactor water level during shutdown conditions using LPCI.
2. Accurately locate and identify all instrumentation required to be monitored to recover reactor water level during shutdown conditions using LPCI.
3. Correctly interpret instrument and system responses and their interrelationships when recovering reactor water level during shutdown conditions using LPCI.

### Initiating Cue(s):

The Control Room Supervisor directs you to recover reactor vessel level to  $\geq 48$  inches on NBI-LI-86, SHUTDOWN LVL (Panel 9-4), at a flow rate of 7700 to 8400 gpm with RHR Loop A per procedure 2.2.69.1, step 8.1.5. Notify the CRS when RHR Loop A is injecting to the reactor vessel at a flow rate of 7700 to 8400 gpm.

NOTE: Place the Simulator in RUN and tell the trainee to begin..

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

Task No.: 203030A0401

=====

**Task Title:**      LEVEL RECOVERY DURING SHUTDOWN CONDITIONS USING LPCI

=====

Performance Checklist	Standards	Initials
1.      Ensure RR Pump A is secured	Ensure RR Pump A secured by noting one or more of the following on Panel 9-4:  _____ Circuit breakers 1CN and 1CS.  CUE:    GREEN lights are ON. RED lights are OFF.  _____ RR pump A differential press on DPI-156B.  CUE:    DP indicates 0 psid.  _____ A RR MG drive motor current.  CUE:    Meter indicated 0 amps.	_____
2.      CLOSE RHR-MO-53A	Momentarily place to CLOSE the control switch for RHR-MO-53A, PUMP DISCHARGE VALVE.  CUE:    The GREEN light is ON. The RED light is OFF.	_____*
3.      Reset RHR-MO-25 valve isolation.	Depress the SDC ISOL RESET VLV 25A push-button.  CUE:    The AMBER light is OFF.	_____*
4.      CLOSE RHR-MO-27A	Place to CLOSE and hold the control switch for RHR-MO-27A, OUTBD INJECTION VLV, until the GREEN light comes ON.  CUE:    (15 sec. T. D.) The GREEN light is ON. The RED light is OFF.	_____*
5.      OPEN RHR-MO-25A	Momentarily place to OPEN the control switch for RHR-MO-25A, INBD INJECTION VLV.  CUE:    The RED light is ON. The GREEN light is OFF.	_____*

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

Task No.: 203030A0401

=====

**Task Title:** LEVEL RECOVERY DURING SHUTDOWN CONDITIONS USING LPCI

=====

Performance Checklist	Standards	Initials
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**◆Note: For faulted JPM, when RHR Pump A or C is started, IMMEDIATELY modify remote function (RH37 or RH39) to 100% for the pump that was not initially started.**

6.	Start one RHR pump in LOOP A	Place to START Control Switch for RHR Pump A or C.  CUE: The RED light on. GREEN light OFF.  #CUE: (If asked) Station Operator states that indicated discharge pressure is 300 psig.)	_____*
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◆7a.	OPEN RHR-MO-27A to establish flow.	Place to OPEN Control Switch for RHR-MO-27A, A OUTBD INJECTION VLV, position valve to obtain flow ≤8400 GPM as indicated on RHR-FI-133A or RHR-FR-143.  CUE: RHR-FI-133A flow is not responding; 8000 GPM cannot be established.	_____*
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◆7b.	Identify failure of the selected RHR pump to provide adequate flow.	Inform CRS that the pump is unable to provide desired flow.  #CUE: CRS acknowledges and directs operate to take the actions necessary to continue restoring level with the A LOOP of RHR.	_____
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**Note: Operator may perform step 7e and then perform step 7d. If that is the case, then step 7c need not be performed.**

◆7c.	CLOSE RHR-MO-27A.	Hold to CLOSE position the control switch for RHR-MO-27A, OUTBOARD INJECTION VALVE, until the valve indicates CLOSED.  CUE: The GREEN light is ON. The RED light is OFF.	_____*
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◆7d.	Stop RHR Pump.	Place in STOP the control switch for RHR pump A(C).  CUE: The GREEN light is ON. The RED light is OFF for RHR Pump A(C).	_____*
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**JOB PERFORMANCE MEASURE FOR OPERATIONS**

Task No.: 203030A0401

=====  
**Task Title:**      LEVEL RECOVERY DURING SHUTDOWN CONDITIONS USING LPCI  
=====

<b>Performance Checklist</b>	<b>Standards</b>	<b>Initials</b>
◆7e.    Start the other RHR pump in LOOP A.	Place to START Control Switch for RHR Pump A or C.  CUE:    The RED light if ON (If Station Operator is asked) PI-107A and/or PI-107C indicate discharge pressure of 300 psig).	_____*
◆7f.    Throttle RHR-MO-27A to establish flow.	Position RHR-MO-27A, A OUTBD INJECTION VLV, to obtain ≤8400 GPM as indicated on RHR-FI-133A or RHR-FR-143.  CUE:    RHR-FI-133A is reading ≈ 8000 GPM.	_____*
8.      Inform the CRS that the task is complete.	Inform the Control Room Supervisor that RHR Loop A is injecting to the reactor vessel at a flow rate of 7700 to 8400 gpm.  #CUE:    The CRS acknowledges the report. This JPM is complete.	_____

**ATTACHMENT 1**

**SIMULATOR SET-UP**

A. Materials Required

None

B. Initialize the Simulator in IC-1.

Batch File Name - jpm/342008 if the JPM is to be run Faulted.

C. Change the simulator conditions as follows:

1. Triggers

<u>NUMBER</u>	<u>FILE NAME</u>	<u>DESCRIPTION</u>
E1	RHRPAON	RHR Pump A C/S to ON
E2	RHRPCON	RHR Pump C C/S to ON

2. Malfunctions

<u>Description</u>	<u>Trigger</u>	<u>TD</u>	<u>Severity</u>	<u>Ramp</u>	<u>Initial</u>
RR20A	None	0	100%	0	N/A
RR20B	None	0	100%	0	N/A

3. Remotes

<u>Description</u>	<u>Tag Number</u>	<u>Value</u>
◆RHR Pump A Torus Suction Valve	YPXRRH37	5%
◆RH39 RHR Pump C Torus Suction Valve	YPXRRH39	5%

**After batch file is loaded, assign Trigger E1 to remote function RH37 and Trigger E2 to remote function RH39.**

4. Overrides

None

5. Panel Setup

At VBD-M, ensure REC-MO-711 or REC-MO-714, associated with the in-service REC HX is open.

D. Place the Simulator in RUN. Insert malfunctions RR20A & RR20B at 100%. Allow reactor water level to decrease to approximately 100 inches on NBI-LI-91A(takes ~ 10 minutes), then remove the malfunctions.

E. **For faulted JPM, when RHR Pump A or C is started, IMMEDIATELY modify remote function (RH37 or RH39) to 100% for the pump that was not initially started.**

**ATTACHMENT 2**

**This Page May Be Given To The Candidate**

**Directions to Trainee:**

When I tell you to begin, you are to recover reactor water level using LPCI Loop A. Before you start, I will state the general plant conditions, the initiating cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to recover reactor water level using LPCI. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

**General Conditions:**

1. The plant is in cold shutdown.
2. Level dropped to approximately 100 inches on fuel zone indicators NBI-LI-91A and NBI-LI-91B before a valve lineup error was corrected.
3. RHR Loop B was in Shutdown Cooling mode prior to the RPV level drop.
4. RHR Loop A is in a LPCI standby lineup with suction from the Torus.
5. All prerequisites have been met and procedure 2.2.69.1 has been completed through step 8.1.5.

**Initiating Cues:**

The Control Room Supervisor directs you to recover reactor vessel level to  $\geq 48$  inches on NBI-LI-86, SHUTDOWN LVL (Panel 9-4), at a flow rate of 7700 to 8400 gpm with RHR Loop A per procedure 2.2.69.1, step 8.1.5. Notify the CRS when RHR Loop A is injecting to the reactor vessel at a flow rate of 7700 to 8400 gpm.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:**       Decay Heat Removal with the Standby Gas Treatment System (Group 6 Isolation Present)  
=====

**Program Information:**

1.       Appropriate Performance Locations: CR/SIM
2.       Appropriate Trainee level: RO/SRO
3.       Evaluation Method: \_\_ Simulate   \_\_ Perform
4.       Performance Time: 15 minutes
5.       Importance Rating: 3.13
6.       NRC K/A 295001 A4.02 (3.9/3.7)

**Directions to Trainee:**

When I tell you to begin, you are to perform a decay heat removal for SGT Subsystem A when a Group 6 isolation signal is present. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to this task.. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation

=====  
**General Conditions:**

1.       The Reactor has scrammed.
2.       Group 6 isolation signal is present
1.       SGT Subsystem A temperature is 205 °F

**General References:**

1.       Procedure 2.2.73

**General Tools and Equipment:**

1.       None

**Special Conditions, References, Tools, Equipment:**

1.       Simulator Setup: See Attachment 1.
2.       Critical checks denoted by "\*".
3.       Simulator cues denoted by "#".

**Task Standards:**

1.       Accurately locate, identify, operate and/or manipulate all component controls required to be utilized to perform decay heat removal for SGT Subsystem A when a Group 6 isolation signal is present.
2.       Accurately locate and identify all instrumentation required to be monitored to perform decay heat removal for SGT Subsystem A when a Group 6 isolation signal is present.
3.       Correctly interpret instrument and system responses and their interrelationships when performing a decay heat removal for SGT Subsystem A when a Group 6 isolation signal is present.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:**       Decay Heat Removal with the Standby Gas Treatment System (Group 6 Isolation Present)  
=====

**Initiating Cue(s):**

The Control Room Supervisor directs you to place SGT Subsystem A into Decay Heat Removal mode as per Procedure 2.2.73 (10.1.1).

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

**Task Title:** Decay Heat Removal with the Standby Gas Treatment System (Group 6 Isolation Present)

Performance Checklist	Standards	Initials
1. 10.1.1.1 Activate SGT B Exhaust Fan	Place EF-R-1F, SBT B EXHAUST FAN, switch to RUN and check the following: a. EF-R-1F starts b. SGT-AO-250, SGT B INLET, opens c. SGT-AO-252, SGT B DISCHARGE, opens	_____*
2. 10.1.1.2 Secure SGT A Exhaust Fan	Place EF-R-1E, SBT A EXHAUST FAN, switch to OFF and check the following: a. EF-R-1E STOPS b. SGT-AO-249, SGT A INLET, closes c. SGT-AO-251, SGT A DISCHARGE, closes	_____*
3. 10.1.1.3 Open SGT Dilution Air	Open SGT-AO-270, SGT A DILUTION AIR, by placing the switch to AUTO	_____*
4. 10.1.1.4 Check Rx Building/ Atmosphere DP	Check pressure on HV-DPR-835, RX BLDG/ATMOS DP (VBD-R), is being maintained at $\leq -0.25$ " wg	_____
5. 10.1.1.5 Operate until Carbon Outlet Temp for SGT A is less than 200 F.	Continue to operate EF-R-1F until temperature on SGT-TI-537A, CARBON OUTLET TEMP, can be maintained below 200 °F	_____*
6. Line up SGT Subsystem A	When temperature on SGT-TI-537A, CARBON OUTLET TEMP, can be maintained below 200°F, line up SGT Subsystem A as follows: a. Close SGT-AO-270 b. Place EF-R-1E switch to STNDBY	_____

QUE: Temperature can be maintained below 200 °F

NOTE Alarm in at 205°F Once online manually Que that the Carbon Outlet Temperature below 200°

**ATTACHMENT 1**

**SIMULATOR SET-UP**

- A. Materials Required
  
- B. Simulator IC \_\_\_\_\_
  
- C. Change the simulator conditions as follows:
  - 1. Triggers
  
  - 2. Malfunctions
  
  - 3. Remotes
  
  - 4. Overrides
  
  - 5. Panel Setup

Note: If this JPM is to be performed more than once, snap the simulator into IC-0 after the panel setup is complete.

## ATTACHMENT 2

### Directions to Trainee:

When I tell you to begin, you are to perform a decay heat removal for SGT Subsystem A when a Group 6 isolation signal is present. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to this task. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

### General Conditions:

1. The Reactor has scrammed.
2. Group 6 isolation signal is present
3. SGT Subsystem A temperature is 245 °F

### Initiating Cues:

The Control Room Supervisor directs you to place SGT Subsystem A into Decay Heat Removal mode as per Procedure 2.2.73 (10.1.1).

**THIS PAGE MAY BE GIVEN TO THE CANDIDATE**

**General Conditions:**

1. The Reactor has scrammed.
2. Group 6 isolation signal is present
4. SGT Subsystem A temperature is 245 °F

**Initiating Cues:**

The Control Room Supervisor directs you to place SGT Subsystem A into Decay Heat Removal mode as per Procedure 2.2.73 (10.1.1).





**JOB PERFORMANCE MEASURE FOR OPERATIONS**

Task No.: 215038

**Task Title:** PERFORM APRM GAIN ADJUSTMENT (WITH A VALID CTP AVAILABLE WITH TWO RR LOOPS OPERATING)

Performance Checklist	Standards	Initials
1. Obtain copy of Procedure 6.Log.601, Att 2	Obtain a copy of Procedure 6.Log.601, Attachment 1  CUE: Provide 6.Log.601, Attachment 1	_____
2. Obtain copy of NPP 10.1, Att 1	Obtain a copy of NPP 10.1, Attachment 1  CUE: Provide NPP, Attachment 1.	_____
3. Verify APRM Status	At Panel 9-5, ensure APRM recorder is energized, APRM/IRM switch in APRM, and pen not stuck.	_____
4. Record CTP on Attachment 1	Record CTP from Official Case (CTP is CMWT on Official Case) or OD-3 on Att 1.	_____*
5. Calculate and record FRP on Attachment 1	Calculate and record FRP (FRP = CMWT/2381) on Att. 1.	_____*
6. Check Impulse Pressure vs. FRP on Att. 4	Check Impulse Pressure on DEH panel and compare reading to FRP on Att. 4.	_____
7. Record APRM Desired reading	Determine and record the APRM Desired reading on Att. 1. (APRM Desired = FRP x 100)	_____*
8. Record AGAF Initial on Att 1	Record the AGAF Initial from Official Case or OD-3 on Att. 1.	_____*
9. Bypass APRM Channel	At Panel 9-5, bypass APRM B with the Manual Bypass Joystick.	_____
10. APRM B in 'AVERAGE'	At Panel 9-14, verify or place in AVERAGE APRM B Meter Function Switch on Panel 9-14.	_____
11. Adjust gain to obtain APRM B Desired reading	At Panel 9-14, adjust the Gain Adjustment Potentiometer to obtain APRM Desired reading from Att. 1.  APRM B will not adjust	_____
<b>FAULT</b>	Notify CRS that APRM B cannot be adjusted.  CUE: Understand that APRM B cannot be adjusted, Continue and adjust APRM F.	_____*

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

Task No.: 215038

=====  
**Task Title:**     PERFORM APRM GAIN ADJUSTMENT (WITH A VALID CTP AVAILABLE WITH  
 TWO RR LOOPS OPERATING)  
 =====

Performance Checklist	Standards	Initials
12. Bypass APRM F Channel	At Panel 9-5, bypass APRM F with the Manual Bypass Joystick.	_____
13. APRM F in 'AVERAGE'	At Panel 9-14, verify or place in AVERAGE APRM F Meter Function Switch on Panel 9-14.	_____
14. Adjust gain to obtain APRM F Desired reading	At Panel 9-14, adjust the Gain Adjustment Potentiometer to obtain APRM Desired reading from Att. 1.  APRM F will not adjust	
<b>FAULT</b>	Notify CRS that APRM F cannot be adjusted.  CUE: Understand that APRM F cannot be adjusted, CUE: Investigate and Recommend Action.	_____*
15. Review Tech. Specs.	Review Tech Spec (3.3.1.1and possibly table 3.3.1.1-1)  Recommend that a half-scrum be placed in the affected trip system  CUE: Place a half-scrum in the affected trip system (channel B)	_____*
16. Inform the Control Room Supervisor that the task is complete	Inform the CRS that a half-scrum has be placed into trip channel B  CUE: The CRS acknowledges the report. This JPM is complete.	_____

## ATTACHMENT 1

### SIMULATOR SET-UP

A. Materials Required

NPP 10.1, Attachment 1 and 4

B. Initialize the Simulator in IC-18.

Batch File Name - none.

C. Change the simulator conditions as follows:

1. Triggers

None

2. Malfunctions

None

3. Remotes

None

4. Overrides

None

5. Panel Setup

a. Place Simulator in RUN.

b. Adjust APRM B gain to lower 3-4%.

c. Ensure  $\leq 2381$  MWT.

d. Ensure Official Case or OD-3 edit indicates only B APRM requires gain adjustment.

e. Obtain Official Case edit to provide to trainee.

NOTE: If valid computer edits cannot be obtained, insert BOGEY values for M545 and M546, substituting "1" on the PMIS IDT.

◆f. Place a red arrow on the Impulse Pressure indicator window on the DEH Panel and record in the Red Arrow Log that the indicator is OOS.

g. Place the simulator in FREEZE.

Note: If this JPM is to be performed more than once, snap the simulator into IC-0 after the panel setup is complete.

## ATTACHMENT 2

### Directions to Candidate:

When I tell you to begin, you are to perform any corrective actions for the data given. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to adjust APRM gains with a valid CTP available with two RR loops operating. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

### General Conditions:

1. The plant is in normal operation with two Recirc Pumps in service.
2. Just Increased reactor power from 90% to 100%

### Initiating Cues:

The Control Room Supervisor directs you to review the shiftly Official Case (Provide the data sheet.) and complete any required Attachment(s). Inform the CRS when the task is complete and provide him with completed Attachment(s) for his review.

ATTACHMENT 3

## **This page May Be Given To The Candidate**

### **Directions to Candidate:**

When I tell you to begin, you are to perform any corrective actions for the data given. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to adjust APRM gains with a valid CTP available with two RR loops operating. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

### **General Conditions:**

1. The plant is in normal operation with two Recirc Pumps in service.
2. Just Increased reactor power from 90% to 100%

### **Initiating Cues:**

The Control Room Supervisor directs you to review the shiftly Official Case (Provide the data sheet.) and complete any required Attachment(s). Inform the CRS when the task is complete and provide him with completed Attachment(s) for his review.

## JOB PERFORMANCE MEASURE FOR OPERATIONS

=====  
**Task Title:** Transferring Bus 1A From Startup Transformer to Normal Transformer  
=====

### Program Information:

1. Appropriate Performance Locations: CR/SIM
2. Appropriate Trainee level: RO/SRO
3. Evaluation Method: \_\_ Simulate \_\_ Perform
4. Performance Time: 15 minutes
5. Importance Rating: 3.13
6. NRC K/A 295001 A4.02 (3.9/3.7)

### Directions to Candidate:

When I tell you to begin, you are to transfer Bus 1A From Startup Transformer to Normal Transformer. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to this task.. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation

=====  
**General Conditions:**

1. Reactor Power is at 100%

### General References:

1. Procedure 2.2.18

### General Tools and Equipment:

1. None

### Special Conditions, References, Tools, Equipment:

1. Simulator Setup: See Attachment 1.
2. Critical checks denoted by "\*".
3. Simulator cues denoted by "#".

### Task Standards:

1. Accurately locate, identify, operate and/or manipulate all component controls required to be utilized to transfer Bus 1A From Startup Transformer to Normal Transformer.
2. Accurately locate and identify all instrumentation required to be monitored to transfer Bus 1A From Startup Transformer to Normal Transformer.
3. Correctly interpret instrument and system responses and their interrelationships when performing a transfer Bus 1A From Startup Transformer to Normal Transformer.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:**       Transferring Bus 1A From Startup Transformer to Normal Transformer  
=====

**Initiating Cue:**

The Control Room Supervisor directs you to transfer Bus 1A from the Startup Transformer to the Normal Transformer as per Procedure 2.2.18 (11.1). Inform the Supervisor when the task has been completed.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:** Transferring Bus 1A From Startup Transformer to Normal Transformer  
 =====

Performance Checklist		Standards	Initials
1.	11.1.1 Ensure Main Generator Voltage	Ensure that Main Generator voltage is between 20 and 23 kV	_____
2.	11.1.2 Ensure that breaker is racked in	Ensure Breaker 1AN, NORMAL XFMR BKR, is racked in	_____
3.	11.1.3 Place SYNC SWITCH to 1AN	Place SYNC SWITCH 1AN or 1AS to 1AN	_____*
4.	11.1.4 Synchroscope at 12 o'clock	Ensure proper synchronization on SYNCHROSCOPE (12 o'clock)	_____*
5.	11.1.5 Close breaker 1AN	Close Breaker 1AN and check the following: a. Spring switch returns to NORMAL AFTER CLOSE (red flagged) b. Breaker 1AS, STARTUP XFMR BKR, has automatically tripped c. Amber tripped indicating light above breaker 1AS switch turns on d. Annunciator C-2/B-2, 4160V BUS 1A BKR 1AS TRIP, alarms e. Bus 1A voltage is between 3950 and 4400 volts	_____*
6.	11.1.6 Place Breaker 1AS to TRIP	Place switch for breaker 1AS to TRIP and check the following: a. Switch spring returns to NORMAL AFTER TRIP (green flagged) b. Amber tripped indicating light above breaker 1AS switch turns off c. Annunciator C-2/B-2, 4160V BUS 1A BKR 1AS TRIP, clears	_____
7.	11.1.7 Place SYNC SWITCH 1AN or 1AS to off	Place SYNC SWITCH 1AN or 1AS to OFF	_____
8.	11.1.8 Record watt meter usage readings	If removing Startup Transformer from service, record watt meter usage readings  CUE: Startup Transformer will be removed from service	_____

## ATTACHMENT 1

### SIMULATOR SET-UP

- A. Materials Required
  
- B. Simulator
  - IC-18
  
- C. Change the simulator conditions as follows:
  - 1. Triggers
  
  - 2. Malfunctions
  
  - 3. Remotes
  
  - 4. Overrides
  
  - 5. Panel Setup

Note: If this JPM is to be performed more than once, snap the simulator into IC-0 after the panel setup is complete.

## **ATTACHMENT 2**

### **Directions to Candidate:**

When I tell you to begin, you are to transfer Bus 1A From Startup Transformer to Normal Transformer. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to this task.. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

### **General Conditions:**

1. Reactor Power is at 100%

### **Initiating Cues:**

The Control Room Supervisor directs you to transfer Bus 1A from the Startup Transformer to Normal Transformer as per Procedure 2.2.18 (11.1). Inform the Supervisor when the task has been completed.

**ATTACHMENT 3**

**THIS PAGE MAY BE GIVEN TO THE CANDIDATE**

**Directions to Candidate:**

When I tell you to begin, you are to transfer Bus 1A From Startup Transformer to Normal Transformer. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to this task.. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

**General Conditions:**

1. Reactor Power is at 100%

**Initiating Cues:**

The Control Room Supervisor directs you to transfer Bus 1A from the Startup Transformer to Normal Transformer as per Procedure 2.2.18 (11.1). Inform the Supervisor when the task has been completed.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:** OPERATE THE CONTROL ROD DRIVE SYSTEM TO BRING THE REACTOR CRITICAL  
=====

Trainee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Pass: \_\_\_\_\_ Fail: \_\_\_\_\_ Examiner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Additional Program Information:**

**\*\* Start Control Rod Pull At Position 00 Of Control Rod 14-27 \*\***

1. Appropriate Performance Locations: SIM
2. Appropriate Trainee level: RO/SRO
3. Evaluation Method: **Perform**
4. Performance Time: 30 minutes
5. Importance Rating: 3.75
6. NRC K/A 201002 A4.01 (3.5/3.4)

**Directions to Examiner:**

1. This JPM evaluates the trainee's ability to operate the Control Rod Drive System to bring the Reactor Critical.
2. The examiner is to obtain the "JPM Comment Form" (Attachment C of ODG 206) prior to administering the JPM.
3. If this JPM is performed on the Simulator, only the cues preceded by "#" should be given.
4. Observe the trainee during performance of the JPM for proper use of self-checking methods.
5. All blanks must be filled out with either initials or an "NP" for "not performed"; an explanation may also be written in the space if desired by the examiner.
6. Brief the trainee, place the simulator in run, and tell the trainee to begin.

**Directions to Trainee:**

When I tell you to begin, you are to operate the Control Rod Drive System to bring the Reactor Critical. Before you start, I will state the general plant conditions, the initiating cues and answer any questions you may have.

During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

=====  
**General Conditions:**

1. Reactor Startup is in progress following a maintenance outage on "A" Reactor Feed Water Pump.
2. No Control Rod Drive work has been performed.
3. Procedure 2.1.1, the Startup Procedure, has been completed up to step 4.8

**General References:**

1. Procedure 2.1.1
2. NPP 10.13

## JOB PERFORMANCE MEASURE FOR OPERATIONS

=====

**Task Title:** OPERATE THE CONTROL ROD DRIVE SYSTEM TO BRING THE REACTOR CRITICAL

=====

### General Tools and Equipment:

1. Calculator
2. Stop Watch

### Special Conditions, References, Tools, Equipment:

1. Simulator Setup: See Attachment 1.
2. Critical checks denoted by "\*".
3. Simulator cues denoted by "#".

### Task Standards:

1. Accurately locate, identify, operate and/or manipulate all component controls required to be utilized to operate the Control Rod Drive System to bring the Reactor Critical.
2. Accurately locate and identify all instrumentation required to be monitored to operate the Control Rod Drive System to bring the Reactor Critical.
3. Correctly interpret instrument and system responses and their interrelationships when operating the Control Rod Drive System and bring the Reactor Critical.

### Initiating Cue(s):

You have relieved the watch as Reactor Operator. The Control Room Supervisor directs you to continue with the Reactor Startup in progress and to inform him when you have determined that the reactor is critical and Steps 4.9 through 4.11.2 of Procedure 2.1.1 have been completed.

Note: Provide OD-7.

Note: Steps 3, 4, 5 and 6 can be performed in any order. Also, prior to starting, the trainee may desire to review NPP 10.13.

Note: Place the Simulator in RUN and tell the trainee to begin.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====

**Task Title:** OPERATE THE CONTROL ROD DRIVE SYSTEM TO BRING THE REACTOR CRITICAL

=====

Performance Checklist	Standards	Initials
1. Pull rods for critical.	Continue rod pull in accordance with Procedure 10.13, Attachment 3.  Start with rod 14-27 at position 00	_____*
2. Verify SRM/IRM overlap	Verify IRMs at least mid scale on range 1 prior to SRM rod block with SRMs detectors fully inserted.	_____
<b>Note: Steps 3, 4, 5 and 6 can be performed in any order.</b>		
3. Withdraw SRM Detectors.	Withdraw the SRM detectors to maintain a count rate of 10 <sup>3</sup> to 10 <sup>5</sup> CPS after obtaining a positive response on all eight (8) of the IRM channels.	_____*
4. IRM recorders on fast speed.	Place one IRM recorder in each RPS Channel on fast speed and time and date chart.	_____
5. SRM recorder on slow speed.	Place SRM recorder on slow speed and time and date chart.	_____
6. Range IRM's.	Range IRM's to maintain approximately 7.5 to 25 on 0 to 40 scale and 25 to 75 on 0 to 125 scale.	_____*
7. Declare Reactor critical.	Declare Reactor Critical after observing rising neutron flux indication with no Control rod motion.  Should go critical on control rod 30-27 at about position 14.  #CUE: CRS acknowledges that the reactor is critical.	_____*
8. Calculate Reactor period	Obtain time required for power to double and multiplies by 1.443 to obtain length of Reactor period.	_____

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====

**Task Title:** OPERATE THE CONTROL ROD DRIVE SYSTEM TO BRING THE REACTOR CRITICAL

=====

<b>Performance Checklist</b>	<b>Standards</b>	<b>Initials</b>
9. Complete entries on Nuclear Performance Procedure	Make following entries in Procedure 10.13 Attachment 1 and in Control Room Log:  _____ Control Rod number  _____ Control Rod position  _____ Moderator Temperature  _____ Sequence  _____ Reactor Period  _____ Time	_____
11. Notify CRS that the task is complete.	Inform the Control Room Supervisor that the reactor is critical and Steps 4.9 through 4.11 have been completed.  #CUE: The CRD acknowledges the report. This JPM is complete.	_____

## ATTACHMENT 1

### SIMULATOR SET-UP

A. Materials Required

None

B. Initialize the Simulator in IC-4.

Batch File Name - none.

C. Change the simulator conditions as follows:

1. Triggers

None

2. Malfunctions

None

3. Remotes

None

4. Overrides

None

5. Panel Setup

a. Initialize the Simulator in IC-4 and place in RUN.

b. Place SRM recorders on FAST speed.

c. Obtain OD-7 printout for Trainee.

d. Open rod sequence package to RWM Gp 2 and check rods through 38-19 as being withdrawn.

e. Obtain a copy of GOP 2.1.1 Rev. 90 and open to step 4.7/4.8 on Page 12.

f. Fill out 10.13 with initial SRM readings for continuous withdrawal limit (SRM A-55 counts, SRM B-55, SRM C-55, SRM D-70).

g. Check off rods withdrawn in Rod Sequence Book.

h. Place RWM on PMIS and Initialize.

i. Select Rod 30-11.

Note: If this JPM is to be performed more than once, snap the simulator into IC-0 after the panel setup is complete.

## ATTACHMENT 2

### Directions to Candidate:

When I tell you to begin, you are to operate the Control Rod Drive System to bring the Reactor Critical. Before you start, I will state the general plant conditions, the initiating cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders, and controls you would be using. State the position of controls as you would have manipulated them to operate the Control Rod Drive System to bring the Reactor Critical. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

### General Conditions:

1. Reactor Startup is in progress following a maintenance outage on "A" Reactor Feed Water Pump.
2. No Control Rod Drive work has been performed.
3. The Startup Procedure is completed up to step 4.8.

### Initiating Cues:

You have relieved the watch as Reactor Operator. The Control Room Supervisor directs you to continue with the Reactor Startup in progress and to inform him when you have determined that the reactor is critical and Steps 4.9 through 4.11 of Procedure 2.1.1 have been completed.

**ATTACHMENT 3**

**This Page May Be Given To The Candidate**

**Directions to Candidate:**

When I tell you to begin, you are to operate the Control Rod Drive System to bring the Reactor Critical. Before you start, I will state the general plant conditions, the initiating cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders, and controls you would be using. State the position of controls as you would have manipulated them to operate the Control Rod Drive System to bring the Reactor Critical. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

**General Conditions:**

1. Reactor Startup is in progress following a maintenance outage on "A" Reactor Feed Water Pump.
2. No Control Rod Drive work has been performed.
3. The Startup Procedure is completed up to step 4.8.

**Initiating Cues:**

You have relieved the watch as Reactor Operator. The Control Room Supervisor directs you to continue with the Reactor Startup in progress and to inform him when you have determined that the reactor is critical and Steps 4.9 through 4.11 of Procedure 2.1.1 have been completed.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

Task No.: 200287A0501

=====  
**Task Title:** PRIMARY CONTAINMENT VENTING FOR PCPL  
=====

Trainee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Pass: \_\_\_\_\_ Fail: \_\_\_\_\_ Examiner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Additional Program Information:**

1. Appropriate Performance Locations: CR/SIM
2. Appropriate Trainee Level: RO/SRO
3. Evaluation Method: \_\_ Simulate \_\_ Perform
4. Performance Time: 13 minutes
5. Importance Rating: 4.0
6. NRC K/A 295024 EA1.20(3.5/3.6)

**Directions to Examiner:**

1. This JPM evaluates the trainee's ability to vent primary containment under accident or post accident conditions.
2. If this JPM is performed on the Simulator, only the cues preceded by "#" should be given.
3. Brief the trainee, and tell the trainee to begin.
4. Observe the trainee during performance of the JPM for proper use of self-checking methods.
5. All blanks must be filled out with either initials or an "NP" for "not performed", and an explanation may also be written in the space if desired by the examiner.

**Directions to Trainee:**

When I tell you to begin, you are to maintain drywell pressure during accident conditions. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to maintain drywell pressure during accident conditions.

=====  
**General Conditions:**

1. The plant has experienced an ATWS LOCA.
2. The Containment Spray Mode of RHR is not operable.
3. Primary Containment pressure is approaching 55 psi slowly.
4. Suppression pool water level is 33'.

## JOB PERFORMANCE MEASURE FOR OPERATIONS

Task No.: 200287A0501

=====  
**Task Title:** PRIMARY CONTAINMENT VENTING FOR PCPL  
=====

### General References:

ESP 5.8.18

### General Tools and Equipment:

1PA-2235 Key

### Special Conditions, References, Tools, Equipment:

1. Simulator Setup: See Attachment 1.
2. Critical checks denoted by "\*".
3. Simulator cues denoted by "#".

### Task Standards:

1. Accurately locate, identify, operate and/or manipulate all component controls required to be utilized to maintain drywell pressure during accident conditions.
2. Accurately locate and identify all instrumentation required to be monitored to maintain drywell pressure during accident conditions.
3. Correctly interpret instrument and system responses and their interrelationships when maintaining drywell pressure during accident conditions.

### Initiating Cue(s):

The Shift Supervisor has declared a Site Area Emergency. The Control Room Supervisor has reached step PC/P-5 on Flowchart 3A and directed you to vent the Primary Containment using the one inch drywell vent line to maintain pressure below the Primary Containment Pressure Limit determined by Graph 11, EOP Support Procedure 5.8.18 Attachment 1 (Optimally between 55-60 psig). The other RO has initiated the appropriate EIPs for release rate determination. You are to inform the CRS when you have reduced primary containment pressure to just below the PCPL.

Note: Place the Simulator in RUN and tell the Trainee to begin.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

Task No.: 200287A0501

=====  
**Task Title: PRIMARY CONTAINMENT VENTING FOR PCPL**  
 =====

Performance Checklist	Standards	Initials
1. Obtain Keys to Override	Operator obtains keys to place PC-MO-306 override switch to the "override" position	_____
2. Monitor DW Pressure and Torus Level	Operator continuously monitors Drywell pressure (55#) and Suppression Pool level (33').	_____
3. Verify that SGT is operating	The operator verifies SGT Fan A or B is operating.	_____
4. Verify dampers PC-AD-R-1A is CLOSED and PC-AD-R-1B is OPEN	The operator verifies damper control switch for AD-R-1A and AD-R-1B on Panel-K is in SGT.	_____
5. OPEN PC-MO-1310,	The operator places control switch for PC-MO-1310 to the OVERRIDE position on Panel P1.	_____*
6. OVERRIDE PC-MO-306	The operator places the ISOLATION OVERRIDE switch for PC-MO-306 to OVERRIDE on Panel P1	_____*
7. Open PC-MO-306,	The operator OPENS PC-MO-306 on Panel H.	_____*
8. Monitor ERP effluent radiation monitors.	<p>At Panel Q, operator monitors the ERP Effluent radiation monitors for response to release.</p> <p>#CUE: ERP High Range Kaman is responding and indicating <math>4 \times 10^4</math> <math>\mu</math>ci/cc.</p>	_____
9. THROTTLE PC-MO-306	<p>NOTE: At this point, when monitoring PC/Drywell pressure, the operator may either ask for pressure or monitor it on Panels P1, 9-3, 9-4, or any PMIS IDT.</p> <p>The operator THROTTLES PC-MO-306 to reduce and maintain PC pressure to <u>just below</u> the PCPL (Att. 1 Graph 11).</p> <p>#CUE: PC pressure is steady between 55-60 psig.</p>	_____
10. Override switch back to Normal	Operator takes PC-MO-306 override back to normal position	_____

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

Task No.: 200287A0501

=====  
**Task Title:** PRIMARY CONTAINMENT VENTING FOR PCPL  
=====

<b>Performance Checklist</b>	<b>Standards</b>	<b>Initials</b>
10. Inform CRS	The operator informs the CRS that he has reduced to 55-60 psig and is maintaining PC pressure <u>below</u> the PCPL.  CUE: The CRS acknowledges the report. This JPM is now complete.	_____

.....

**ATTACHMENT 1**

**SIMULATOR SET-UP**

A. Materials Required

None

B. Initialize the Simulator in IC-18.

**Snap to 50# w/1lb/min leakage**

Batch File Name - none.

C. Change the simulator conditions as follows:

1. Triggers

None

2. Malfunctions

<u>Number</u>	<u>Title</u>	<u>Trigger</u>	<u>TD</u>	<u>Severity</u>	<u>Ramp</u>
RR20a	Coolant Leakage Inside PC	N/A	N/A	10	N/A
PC02a	Torus To DW Vacuum Breaker Failure	N/A	N/A	100	N/A
<b>PC02b</b>	<b>Torus To DW Vacuum Breaker Failure</b>	<b>N/A</b>	<b>N/A</b>	<b>100</b>	<b>N/A</b>
HP01	HPCI System Failure To Auto Start	N/A	N/A	N/A	N/A
RC01	RCIC System Failure To Auto Start	N/A	N/A	N/A	N/A
FW18a	FW Line Break Inside PC	N/A	N/A	100	N/A
<b>MS01</b>	<b>Steam leak inside D/W</b>	<b>N/A</b>	<b>N/A</b>	<b>8</b>	<b>Raise to get PC/DW conditions</b>
ED18	PMIS System Power Failure	N/A	N/A	N/A	N/A

3. Remotes

None

4. Overrides

<u>Tag</u>	<u>Trigger</u>	<u>TD</u>	<u>Value</u>	<u>Ramp</u>
ZAOPCLR1A[1]	N/A	N/A	33	N/A
ZAOPCLR1A[2]	N/A	N/A	30	N/A
ZAOPCLI10	N/A	N/A	6	N/A
ZAOPCLI12	N/A	N/A	10	N/A
ZAOPCLI13	N/A	N/A	10	N/A
ZAOPCLR11[2]	N/A	N/A	6	N/A
ZAOPCLR1B[1]	N/A	N/A	33	N/A
ZAOPCLR1B[2]	N/A	N/A	30	N/A
RA:MUX07C120	N/A	N/A	OFF	N/A
ZDIMSSWS3A[1]	N/A	N/A	INHIB	N/A
ZDIMSSWS3B[1]	N/A	N/A	INHIB	N/A
ZDIRFCLCL130[1]	N/A	N/A	MANUAL	N/A
ZAIRFCLCL130[1]	N/A	N/A	0	N/A
ZDIRHRSWS3A[3]	N/A	N/A	PTL	N/A
ZDIRHRSWS3B[3]	N/A	N/A	PTL	N/A
ZDIRHRSWS3C[3]	N/A	N/A	PTL	N/A
ZDIRHRSWS3D[3]	N/A	N/A	PTL	N/A
ZDICSSWS5A[3]	N/A	N/A	PTL	N/A
ZDICSSWS5B[3]	N/A	N/A	PTL	N/A

5. Panel Setup

- a. Initialize the Simulator.
- b. Insert batch jpm/342025
- c. Place in RUN.
- d. Delete MS01 after D/W pressure >55psig
- e. Freeze simulator after all valves reposition, until student comes in.
- f. Place SGT (1) train in per 2.2.73 Section 4

Note: If this JPM is to be performed more than once, snap the simulator into an available IC after the panel setup is complete.

## ATTACHMENT 2

### Directions to Candidate:

When I tell you to begin, you are to maintain drywell pressure during accident conditions. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to maintain drywell pressure during accident conditions.

### General Conditions:

1. The plant has experienced an ATWS LOCA.
2. The Containment Spray Mode of RHR is not operable.
3. Primary Containment pressure is 55 psi and rising slowly.
4. Suppression pool water level is 33'.
5. PAR, Dose Assessment and Release Rate Determination underway.

### Initiating Cues:

The Shift Supervisor has declared a Site Area Emergency. The Control Room Supervisor has reached step PC/P-5 on Flowchart 3A and directed you to vent the Primary Containment using the one inch drywell vent line to maintain pressure below the Primary Containment Pressure Limit determined by Graph 11, EOP Support Procedure 5.8.18 Attachment 1 (Optimally between 55-60 psig). The other RO has initiated the appropriate EIPs for release rate determination. You are to inform the CRS when you have reduced primary containment pressure to below the PCPL.

**ATTACHMENT 3**

**This Page May Be Given To The Candidate**

**Directions to Candidate:**

When I tell you to begin, you are to maintain drywell pressure during accident conditions. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to maintain drywell pressure during accident conditions.

**General Conditions:**

1. The plant has experienced an ATWS LOCA.
2. The Containment Spray Mode of RHR is not operable.
3. Primary Containment pressure is 55 psi and rising slowly.
4. Suppression pool water level is 33'.
5. PAR, Dose Assessment and Release Rate Determination underway.

**Initiating Cues:**

The Shift Supervisor has declared a Site Area Emergency. The Control Room Supervisor has reached step PC/P-5 on Flowchart 3A and directed you to vent the Primary Containment using the one inch drywell vent line to maintain pressure below the Primary Containment Pressure Limit determined by Graph 11, EOP Support Procedure 5.8.18 Attachment 1 (Optimally between 55-60 psig). The other RO has initiated the appropriate EIPs for release rate determination. You are to inform the CRS when you have reduced primary containment pressure to below the PCPL.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:**       START TORUS COOLING FROM THE ASD ROOM  
=====

Trainee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Pass: \_\_\_\_\_ Fail: \_\_\_\_\_ Examiner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Additional Program Information:**

1.       Appropriate Performance Locations: SIM/Plant
2.       Appropriate Trainee Levels: SRO
3.       Evaluation Method: \_\_\_\_\_ Simulate   \_\_\_\_\_ Perform
4.       Performance Time: 15 minutes
5.       Importance Rating: 4.0
6.       NRC K/A 295016 AA2.04 3.9/4.1

**Directions to Examiner:**

1.       This JPM evaluates the trainee's ability to start torus cooling from the ASD room.
2.       The examiner is to obtain the "JPM Comment Form" (Attachment C of ODG 206) prior to administering the JPM.
3.       If this JPM is performed on the Simulator, only the cues preceded by "#" should be given.
4.       Observe the trainee during performance of the JPM for proper use of self-checking methods.
5.       All blanks must be filled out with either initials or an "NP" for "not performed"; an explanation may also be written in the space if desired by the examiner.
6.       Brief the trainee, place the simulator in run, and tell the trainee to begin.

**Directions to Trainee:**

When I tell you to begin, you are to start torus cooling from the ASD room. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to start torus cooling from the ASD room. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

=====  
**General Conditions:**

1.       The control room has been evacuated.
2.       The immediate actions of 5.2.1 have been performed.
3.       HPCI is being operated from the ASD, and controlling reactor water level between 20" and 40".

**General References:**

1.       Emergency Procedure 5.2.1

## JOB PERFORMANCE MEASURE FOR OPERATIONS

=====

**Task Title:** START TORUS COOLING FROM THE ASD ROOM

=====

### General Tools and Equipment:

1. Keys to ASD .

### Special Conditions, References, Tools, Equipment:

1. Simulator Setup: See Attachment 1.
2. Critical checks denoted by "\*".
3. Simulator cues denoted by "#".

### Task Standards:

1. Accurately locate, identify, operate and/or manipulate all component controls required to be utilized to start torus cooling from the ASD panel.
2. Accurately locate and identify all instrumentation required to be monitored to start torus cooling from the ASD panel.
3. Correctly interpret instrument and system responses and their interrelationships when starting torus cooling from the ASD panel.

### Initiating Cue(s):

You are the ASD Operator. The Shift Manager directs you to initiate and maximize torus cooling per procedure 5.2.1. The Shift Manager is in the TSC; inform him when torus cooling has been placed in service and maximized.

NOTE: Place the Simulator in RUN and tell the trainee to begin.

Note: If performing the JPM in the simulator, provide the operator with a copy of Emergency Procedure 5.2.1, Attachment 1.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:**      START TORUS COOLING FROM THE ASD ROOM  
 =====

Performance Checklist	Standards	Initials
1. Place all RHR ISOLATION switches in ISOL	Place to ISOLATE the control switches for each of the following:  <input type="checkbox"/> RHR-MO-34B <input type="checkbox"/> RHR-MO-66B <input type="checkbox"/> RHR-MO-13D <input type="checkbox"/> RHR-MO-15D <input type="checkbox"/> RHR-MO-65B <input type="checkbox"/> RHR-MO-27B <input type="checkbox"/> RHR-MO-12B <input type="checkbox"/> RHR-MO-39B <input type="checkbox"/> RHR-MO-16B <input type="checkbox"/> FLOW IND.	_____*
CUE: (AS operated) switches are in ISOLATE.		
2. Ensure CLOSED:  RHR-MO-15D  RHR-MO-34B	Ensure CLOSED the following valves:  <input type="checkbox"/> RHR-MO-15D, PUMP D SDC SUCT <input type="checkbox"/> RHR-MO-34B, SUPPR POOL COOLING INBD THROTTLE	_____
CUE: (As checked) Green light ON. Red light OFF.		
3. Close RHR-MO-16B	Place to CLOSE the Control switch for RHR-MO-16B, LOOP B MIN FLOW BYP.	_____*
CUE: Green light ON. Red light OFF.		
4. Close RHR-MO-27B	Place to CLOSE the Control switch for RHR-MO-27B, OUTBD INJECTION.	_____*
CUE: Green light ON. Red light OFF.		

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

**Task Title:** START TORUS COOLING FROM THE ASD ROOM

Performance Checklist	Standards	Initials
5. Ensures valves OPEN:	Ensure OPEN the following valves:  _____ RHR-MO-13D, PUMP D TORUS SUCT _____ RHR-MO-12B, HX OUTLET _____ RHR-MO-65B, HX INLET _____ RHR-MO-66B, HX BYPASS  CUE: (As checked) RED light ON. GREEN light OFF.	_____
6. Open RHR-MO-39B	Place to OPEN the Control switch for RHR-MO-39B, SUPPR POOL COOLING/TORUS SPRAY OUTBD.  CUE: RED light ON. GREEN light OFF.	_____ *
7. Open SW-MO-89B, RHR HX B SW OUTLET	Direct R.B. Operator to perform Att. 5, Step 3  #CUE: SO reports SW-MO-89B is open off its seat.	_____ *
8. Start SWB Pump	Direct C.B. Operator to start SWBP B or D and limit amps < 120 by throttling 89B  #CUE: SO reports SWB Pump B running at 105 amps.	_____ *
9. Start RHR Pump D.	Direct Critical Swgr Operator to close breaker for RHR Pump D.  #CUE: SO reports breaker closed for RHR Pump D.	_____ *
10. Throttle open RHR-MO-34B so flow > 2500 gpm	Throttle OPEN RHR-MO-34B until flow on RHR-FI-1133B is >2500 gpm  CUE: Flow indicates 3000 gpm.	_____ *
11. RHR-MO-34B is throttled open.	Throttle OPEN RHR-MO-34B to obtain 4000 to 7000 gpm flow on RHR-FI-1133B.  #CUE: SO reports Pump D amps are 140.  CUE: Flow indicates 7000 gpm.	_____ *

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:**      START TORUS COOLING FROM THE ASD ROOM  
=====

<b>Performance Checklist</b>	<b>Standards</b>	<b>Initials</b>
12. Close RHR-MO-66B	Close RHR-MO-66B to maximize cooling.  CUE:    GREEN light ON, RED light goes OFF.	_____*
13. Inform Shift Manager that the task is complete.	Inform Shift Manager that Torus Cooling has been placed in service and is maximized.  #CUE:    The Shift Manager acknowledges the report. This JPM is now complete.	_____

**ATTACHMENT 1**

**SIMULATOR SET-UP**

A. Materials Required

None

B. Initialize the Simulator in IC-18.

Batch File Name - JPM/342059

C. Change the simulator conditions as follows:

1. Triggers

E2

2. Malfunctions

<u>Number</u>	<u>Title</u>	<u>Trigger</u>	<u>TD</u>	<u>Severity</u>	<u>Ramp</u>
MF AD06A	Complete Failure RV-71A	N/A	N/A	100%	N/A

3. Remotes

None

4. Overrides

<u>Tag</u>	<u>Trigger</u>	<u>TD</u>	<u>Value</u>	<u>Ramp</u>
ZDIRHRSWS3D[3] (RHR Pump D C/S)	2		START	

5. Panel Setup

a. Place all ISOLATION SWITCHES on HPCI ASD PANEL to ISOL.

b. Insert remote function RH36 to CLOSE off Trigger 2

Note: If this JPM is to be performed more than once, take a SNAPSHOT after panel setup is complete.

## ATTACHMENT 2

### Directions to Candidate:

When I tell you to begin, you are to start torus cooling from the ASD room. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to start torus cooling from the ASD room. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

### General Conditions:

1. The control room has been evacuated.
2. The immediate actions of 5.2.1 have been performed.
3. HPCI is being operated from the ASD, and controlling reactor water level between 20" and 40".

### Initiating Cues:

You are the ASD Operator. The Shift Manager directs you to initiate and maximize torus cooling per procedure 5.2.1. The Shift Manager is in the TSC; inform him when torus cooling has been placed in service and maximized.

**ATTACHMENT 3**

**This Page May Be Given To The Candidate**

**Directions to Candidate:**

When I tell you to begin, you are to start torus cooling from the ASD room. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to start torus cooling from the ASD room. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

**General Conditions:**

1. The control room has been evacuated.
2. The immediate actions of 5.2.1 have been performed.
3. HPCI is being operated from the ASD, and controlling reactor water level between 20" and 40".

**Initiating Cues:**

You are the ASD Operator. The Shift Manager directs you to initiate and maximize torus cooling per procedure 5.2.1. The Shift Manager is in the TSC; inform him when torus cooling has been placed in service and maximized.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:** MANUALLY START DG LOCALLY  
=====

Trainee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Pass: \_\_\_\_\_ Fail: \_\_\_\_\_ Examiner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Additional Program Information:**

1. Appropriate Performance Locations: Plant
2. Appropriate Trainee Level: SO/RO/SRO
3. Evaluation Method: **Simulate**
4. Performance Time: 30 minutes
5. Importance Rating: 3.63
6. NRC K/A 262001 SG9(3.6/3.6)

**Directions to Examiner:**

1. This JPM evaluated the examinee's ability to start a diesel generator from its local control panel.
2. The examiner is to obtain the "JPM Comment Form" (Attachment C of ODG 206) prior to administering the JPM.
3. Observe the trainee during performance of the JPM for proper use of self-checking methods.
4. All blanks must be filled out with either initials or an "NP" for "not performed"; an explanation may also be written in the space if desired by the examiner.
5. Brief the trainee and tell the trainee to begin.

**Directions to Trainee:**

When I tell you to begin, you are to start the #2 diesel generator from standby status at its local control panel in FAST MODE. Before you start, I will state the general plant conditions, the Initiating Cues, and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to start the #2 diesel generator from standby status at its local control panel.

=====  
**General Conditions:**

1. Diesel Generator #2 is in standby

**General References:**

1. Procedure 2.2.20.2 (located at the local DG Control Panel)

**General Tools and Equipment:**

1. None

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:**        MANUALLY START DG LOCALLY  
=====

**Special Conditions, References, Tools, Equipment:**

1.        Critical checks denoted by "\*".

**Task Standards:**

1.        Accurately locate, identify, operate and/or manipulate all component controls required to be utilized to start and load a diesel generator locally.
2.        Accurately locate and identify all instrumentation required to be monitored to start and load a diesel generator locally.
3.        Correctly interpret instrument and system responses and their interrelationships when starting and loading a diesel generator locally.

**Initiating Cue(s):**

The CRS directs you to start Diesel Generator #2 locally in FAST MODE and apply 3200 KW load with +500 KVARs per SOP 2.2.20.2. A second operator has been assigned to complete Attachments 1, 2 and 3 of SOP 2.2.20.2. There are no maintenance or I&C procedures scheduled to be performed concurrently. You are to notify the CRS when the task is complete.

Note:    Tell the trainee to begin.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:** MANUALLY START DG LOCALLY  
 =====

	Performance Checklist	Standard	Initials
1.	Check oil level	Ensure oil level is visible in the sight glass.  CUE: Oil level is visible in the sight glass.	_____
2.	Check jacket water level	Ensure jacket water level is visible in sight glass.  CUE: Water is visible in sight glass.	_____
3.	Check governor oil level	Ensure oil level is visible in the sight glass.  CUE: Oil level is visible in the sight glass.	_____
4.	Check Overspeed Governor Oil Level	Ensure engine overspeed governor oil level visible in sight glass (upper southeast corner of engine).	_____
5.	Check Generator Outboard Bearing Oil Level	Ensure oil level in generator outboard bearing visible in sight glass; no air bubble in red bullseye (southeast corner of generator).	_____
6.	Inform CRS of Inop DG #2	Ensure SS is informed that DG2 is inoperable.	
7.		If Governor Low Limit light is on, perform the following:  CUE: Light is off.	_____
8.	Ensure diesel breaker mode switch in Local	Contact control room and ENSURE Diesel Gen 2 BKR MODE SWITCH is in LOCAL.  CUE: Mode switch is in LOCAL. Annunciator C-4/B-5 Lit up CRT displays 3660 Diesel Gen 2 Mode Switch Not In Auto	_____
9.	Check breaker 1GE Closed	Contact control room and ENSURE Diesel Gen 2 BKR 1GE is CLOSED.  CUE: Breaker 1GE is CLOSED.	_____
10.	Position Droop Parallel switch in parallel	Place the DROOP PARALLEL selector switch to PARALLEL.  CUE: Switch is positioned to PARALLEL.	_____*

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:** MANUALLY START DG LOCALLY  
 =====

11.	Performance Checklist	Standard	Initials
	Position Control Mode selector switch to local	Place the CONTROL MODE SELECTOR switch to LOCAL and CHECK local light turns ON.  CUE: Red LOCAL light is ON. Green REMOTE light is OFF.	_____*
	Start the Pre-post Lube Oil Pump	Place the Pre-post Lube Oil Pump Mode selector switch to HAND and allows pump to run ≥ 1 min prior to DG start.  CUE: Pump is heard running. Amber AUTO light is OFF. Green light is OFF. Red light is ON.	_____
	Verify air inlet butterfly valves open.	Verify air inlet butterfly valves open (NW & NE corners of engine).  CUE: Latch pawls are engaged.	_____
	Press and release turbocharger prelube pushbutton	Press and release TURBOCHARGER PRELUBE pushbutton.  CUE Pushbutton is depressed.	_____
	Vent Turbocharger Lube Oil Filter	Vent DGLO-F-TL02, Turbocharger Lube Oil Filter (NE side of the engine) by performing the following Steps 16-21	
	Align Oil filter selector to left bank	Align DGLO-V-20, DG2 OIL FILTER SELECTOR, to left bank of DGLO-F-TL02 (NE side of engine).  CUE: Valve handle points to left bank filter.	_____
	Open DGLO-V-70	Open DGLO-V-70, DG2 LEFT TURBOCHARGER FILTER VENT VALVE.  CUE: Valve handle turns counter-clockwise. Air free oil is flowing from vent.	_____
	Close DGLO-V-70	When air free oil flows from vent, CLOSE DGLO-V-70 DG2 LEFT TURBOCHARGER FILTER VENT VALVE.  CUE: The valve handle is fully clockwise. Oil flow has stopped.	_____
	Align Oil filter selector to right bank	Align DGLO-V-20 to right bank of DGLO- F-TL02.  CUE: Valve handle points to right bank filter.	_____

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:** MANUALLY START DG LOCALLY  
 =====

	<b>Performance Checklist</b>	<b>Standard</b>	<b>Initials</b>
20.	Open DGLO-V-71	Open DGLO-V-71, DG2 RIGHT TURBOCHARGER FILTER VENT VALVE.  CUE: Valve handle turns counter-clockwise. Air free oil is flowing from vent.	_____
21.	Close DGLO-V-71	When air free oil flows from vent, CLOSE DGLO-V-71, DG2 RIGHT TURBOCHARGER FILTER VENT VALVE.  CUE: The valve handle is fully clockwise. Oil flow has stopped.	_____
4.	Start DG2	Depress and Hold the DG2 START pushbutton until the ENGINE AVAILABLE light turns OFF.  CUE: Engine operation can be heard. The ENGINE AVAILABLE light is OFF.	_____*
5.	Check engine RPM.	Before loading, ENSURE speed is approximately 600 rpm.  CUE: Tachometer needle indicates approximately 670 rpm and steady.	_____
6.	Trip of DG #2	Trip DG #2 after <u>recognizing</u> diesel over speed condition by depressing: <input type="checkbox"/> Emergency Shutdown Pushbutton, or <input type="checkbox"/> Stopr Pushbutton  CUE: Engine speed is lowering and the "Not Running" light is illuminated	_____*
7.	CRS Notification	Notify CRS that the diesel is secured and why.  CUE: This JPM is completed	_____

## ATTACHMENT 1

### Directions to Candidate:

When I tell you to begin, you are to start the #2 diesel generator from standby status at its local control panel in FAST MODE. Before you start, I will state the general plant conditions, the Initiating Cues, and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to start the #2 diesel generator from standby status at its local control panel.

### General Conditions:

1. Diesel Generator #2 is in standby.

### Initiating Cues:

The CRS directs you to start Diesel Generator #2 locally in FAST MODE and apply 3200 KW load with +500 KVARs per SOP 2.2.20.2. A second operator has been assigned to complete Attachments 1, 2 and 3 of SOP 2.2.20.2. There are no maintenance or I&C procedures scheduled to be performed concurrently. You are to notify the CRS when the task is complete.

## ATTACHMENT 2

# This Page May Be Given To The Candidate

### Directions to Candidate:

When I tell you to begin, you are to start the #2 diesel generator from standby status at its local control panel in FAST MODE. Before you start, I will state the general plant conditions, the Initiating Cues, and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to start the #2 diesel generator from standby status at its local control panel.

### General Conditions:

1. Diesel Generator #2 is in standby.

### Initiating Cues:

The CRS directs you to start Diesel Generator #2 locally in FAST MODE and apply 3200 KW load with +500 KVARs per SOP 2.2.20.2. A second operator has been assigned to complete Attachments 1, 2 and 3 of SOP 2.2.20.2. There are no maintenance or I&C procedures scheduled to be performed concurrently. You are to notify the CRS when the task is complete.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:** CONDUCT ALTERNATE ROD INSERTION (Vent Scram Air Header)  
=====

Trainee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Pass: \_\_\_\_\_ Fail: \_\_\_\_\_ Examiner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Additional Program Information:**

1. Appropriate Performance Locations: Plant
2. Appropriate Trainee Levels: SO/RO/SRO
3. Evaluation Method: **Simulate**
4. Performance Time: 15 minutes
5. Importance Factor 3.5
6. NRC K/A 201001 SG13(3.6/3.3); 295032 EA1.05(3.9/4.0); SG12(3.9/4.6)

**Directions to Examiner:**

1. This JPM evaluates the trainee's ability to conduct alternate rod insertion by venting the scram air header.
2. The examiner is to obtain the "JPM Comment Form" (Attachment C of ODG 206) prior to administering the JPM.
3. Observe the trainee during performance of the JPM for proper use of self-checking methods.
4. All blanks must be filled out with either initials or an "NP" for "not performed"; an explanation may also be written in the space if desired by the examiner.
5. Brief the trainee and tell the trainee to begin.

**Directions to Trainee:**

When I tell you to begin, you are to conduct alternate rod insertion by venting the scram air header. Before you start, I will state the general plant conditions, the Initiating Cues, and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders, and controls you would be using. State the position of controls as you would have manipulated them to conduct alternate rod insertion by venting the scram air header.

=====  
**General Conditions:**

1. A failure of RPS and ARI to insert the control rods has occurred.
2. The Control Room operator has placed all keylock RPS test trip switches to TRIP.
3. All CRD HCU scram valves remain closed.
4. TSC is not yet operational.
5. No ARMs are alarming.
6. The In-Containment Rad Monitors are reading 100 REM/HR.

**General References:**

1. Emergency Operating Procedure 5.8.3

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:** CONDUCT ALTERNATE ROD INSERTION (Vent Scram Air Header)  
=====

**General Tools and Equipment:**

1. Crescent Wrench (attached by wire lanyard at IA-1601).

**Special Conditions, References, Tools, Equipment:**

1. Critical checks denoted by "\*".

**Task Standards:**

1. Accurately locate, identify, operate and/or manipulate all component controls required to conduct alternate rod insertion by venting the scram air header.
2. Accurately locate and identify all instrumentation required to be monitored to conduct alternate rod insertion by venting the scram air header.
3. Correctly interpret instrument and system responses and their interrelationships when conducting alternate rod insertion by venting the scram air header.

**Initiating Cue(s):**

You have been assigned to conduct alternate rod insertion per Emergency Operating Procedure 5.8.3. The Control Room Supervisor directs you to manually vent the scram air header and to restore the scram air header when specifically directed to do so. Notify the CRS when the task is complete.

Note: Tell the trainee to begin.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:** CONDUCT ALTERNATE ROD INSERTION (Vent Scram Air Header)  
 =====

Performance Checklist	Standard	Initials
1. Close IA-985	Close IA-985, SCRAM DISCHARGE VOLUME and SCRAM PILOT AIR SUPPLY ROOT (R-903-SE).  CUE: The handwheel is fully clockwise and the valve stem is down.	_____*
2. Ensure IA-244 Open.	Ensure open IA-244, PI-229 and PS-230 ROOT.  CUE: The handwheel is fully counter clockwise.	_____
3. Remove pipe cap from IA-1601.	Remove pipe cap from IA-1601, PI-229 and PS-230 DRAIN line, utilizing the wrench attached by lanyard to IA-1601.  CUE: The pipe cap is turning.  CUE: The pipe cap is removed.	_____*
4. Open IA-1601	Open IA-1601, PI-229 and PS-230 DRAIN.  CUE: Valve handwheel is turning counter-clockwise. There is the sound of rushing air.  CUE: The valve handwheel is fully counter clockwise.	_____*
5. Inform Control Room that venting is in progress.	Notify Control Room that venting is in progress.  CUE: When notified: <ul style="list-style-type: none"> <li>• Acknowledge venting is in progress and DIRECT operator to stay on the line.</li> <li>• (After ~1 minute) report that all control rods are inserted and DIRECT restoration of the scram air header.</li> </ul>	_____
6. Close IA-1601	Close IA-1601, PI-229 & PS-230 DRAIN.  CUE: The valve handwheel is fully clockwise.	_____*

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:** CONDUCT ALTERNATE ROD INSERTION (Vent Scram Air Header)  
=====

<b>Performance Checklist</b>	<b>Standard</b>	<b>Initials</b>
7. Install pipe cap on IA-1601	Instal and tighten the pipe cap on IA-1601, PI-229 & PS-230 DRAIN.  CUE: The pipe cap is in place and turning.  CUE: The pipe cap is tight.	_____*
8. Open IA-985	Open IA-985, CRD SCRAM DISCHARGE VOLUME & SCRAM PILOT AIR SUPPLY.  CUE: The handwheel is fully counter clockwise and the valve stem is up.	_____*
9. Inform the CRS that the task is complete	Inform the CRS that the scram air header has been manually vented and that the scram air header is restored.  CUE: The CRS acknowledges the report. This JPM is complete.	_____

## ATTACHMENT 1

### Directions to Candidate:

When I tell you to begin, you are to conduct alternate rod insertion by venting the scram air header. Before you start, I will state the general plant conditions, the Initiating Cues, and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders, and controls you would be using. State the position of controls as you would have manipulated them to conduct alternate rod insertion by venting the scram air header.

### General Conditions:

1. A failure of RPS and ARI to insert the control rods has occurred.
2. The Control Room operator has placed all keylock RPS test trip switches to TRIP.
3. All CRD HCU scram valves remain closed.
4. TSC is not yet operational.
5. No ARMs are alarming.
6. The In-Containment Rad Monitors are reading 100 REM/HR.

### Initiating Cues:

You have been assigned to conduct alternate rod insertion per Emergency Operating Procedure 5.8.3. The Control Room Supervisor directs you to manually vent the scram air header and to restore the scram air header when specifically directed to do so. Notify the CRS when the task is complete.

**ATTACHMENT 2**

**This Page May Be Given To The Candidate**

**Directions to Candidate:**

When I tell you to begin, you are to conduct alternate rod insertion by venting the scram air header. Before you start, I will state the general plant conditions, the Initiating Cues, and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders, and controls you would be using. State the position of controls as you would have manipulated them to conduct alternate rod insertion by venting the scram air header.

**General Conditions:**

1. A failure of RPS and ARI to insert the control rods has occurred.
2. The Control Room operator has placed all keylock RPS test trip switches to TRIP.
3. All CRD HCU scram valves remain closed.
4. TSC is not yet operational.
5. No ARMs are alarming.
6. The In-Containment Rad Monitors are reading 100 REM/HR.

**Initiating Cues:**

You have been assigned to conduct alternate rod insertion per Emergency Operating Procedure 5.8.3. The Control Room Supervisor directs you to manually vent the scram air header and to restore the scram air header when specifically directed to do so. Notify the CRS when the task is complete.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:**       Decay Heat Removal with the Standby Gas Treatment System (Group 6 Isolation Present)  
=====

**Program Information:**

1.       Appropriate Performance Locations: CR/SIM
2.       Appropriate Trainee level: RO/SRO
3.       Evaluation Method: \_\_ Simulate   \_\_ Perform
4.       Performance Time: 15 minutes
5.       Importance Rating: 3.13
6.       NRC K/A 295001 A4.02 (3.9/3.7)

**Directions to Trainee:**

When I tell you to begin, you are to perform a decay heat removal for SGT Subsystem A when a Group 6 isolation signal is present. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to this task.. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation

=====  
**General Conditions:**

1.       The Reactor has scrammed.
2.       Group 6 isolation signal is present
1.       SGT Subsystem A temperature is 205 °F

**General References:**

1.       Procedure 2.2.73

**General Tools and Equipment:**

1.       None

**Special Conditions, References, Tools, Equipment:**

1.       Simulator Setup: See Attachment 1.
2.       Critical checks denoted by "\*".
3.       Simulator cues denoted by "#".

**Task Standards:**

1.       Accurately locate, identify, operate and/or manipulate all component controls required to be utilized to perform decay heat removal for SGT Subsystem A when a Group 6 isolation signal is present.
2.       Accurately locate and identify all instrumentation required to be monitored to perform decay heat removal for SGT Subsystem A when a Group 6 isolation signal is present.
3.       Correctly interpret instrument and system responses and their interrelationships when performing a decay heat removal for SGT Subsystem A when a Group 6 isolation signal is present.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:**       Decay Heat Removal with the Standby Gas Treatment System (Group 6 Isolation Present)  
=====

**Initiating Cue(s):**

The Control Room Supervisor directs you to place SGT Subsystem A into Decay Heat Removal mode as per Procedure 2.2.73 (10.1.1).

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

**Task Title:** Decay Heat Removal with the Standby Gas Treatment System (Group 6 Isolation Present)

Performance Checklist	Standards	Initials
1. 10.1.1.1 Activate SGT B Exhaust Fan	Place EF-R-1F, SBT B EXHAUST FAN, switch to RUN and check the following: a. EF-R-1F starts b. SGT-AO-250, SGT B INLET, opens c. SGT-AO-252, SGT B DISCHARGE, opens	_____*
2. 10.1.1.2 Secure SGT A Exhaust Fan	Place EF-R-1E, SBT A EXHAUST FAN, switch to OFF and check the following: a. EF-R-1E STOPS b. SGT-AO-249, SGT A INLET, closes c. SGT-AO-251, SGT A DISCHARGE, closes	_____*
3. 10.1.1.3 Open SGT Dilution Air	Open SGT-AO-270, SGT A DILUTION AIR, by placing the switch to AUTO	_____*
4. 10.1.1.4 Check Rx Building/ Atmosphere DP	Check pressure on HV-DPR-835, RX BLDG/ATMOS DP (VBD-R), is being maintained at $\leq -0.25$ " wg	_____
5. 10.1.1.5 Operate until Carbon Outlet Temp for SGT A is less than 200 F.	Continue to operate EF-R-1F until temperature on SGT-TI-537A, CARBON OUTLET TEMP, can be maintained below 200 °F	_____*
6. Line up SGT Subsystem A	When temperature on SGT-TI-537A, CARBON OUTLET TEMP, can be maintained below 200°F, line up SGT Subsystem A as follows: a. Close SGT-AO-270 b. Place EF-R-1E switch to STNDBY	_____

QUE: Temperature can be maintained below 200 °F

NOTE Alarm in at 205°F Once online manually Que that the Carbon Outlet Temperature below 200°

**ATTACHMENT 1**

**SIMULATOR SET-UP**

- A. Materials Required
  
- B. Simulator IC \_\_\_\_\_
  
- C. Change the simulator conditions as follows:
  - 1. Triggers
  
  - 2. Malfunctions
  
  - 3. Remotes
  
  - 4. Overrides
  
  - 5. Panel Setup

Note: If this JPM is to be performed more than once, snap the simulator into IC-0 after the panel setup is complete.

## ATTACHMENT 2

### Directions to Trainee:

When I tell you to begin, you are to perform a decay heat removal for SGT Subsystem A when a Group 6 isolation signal is present. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to this task. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

### General Conditions:

1. The Reactor has scrammed.
2. Group 6 isolation signal is present
3. SGT Subsystem A temperature is 245 °F

### Initiating Cues:

The Control Room Supervisor directs you to place SGT Subsystem A into Decay Heat Removal mode as per Procedure 2.2.73 (10.1.1).

**THIS PAGE MAY BE GIVEN TO THE CANDIDATE**

**General Conditions:**

1. The Reactor has scrammed.
2. Group 6 isolation signal is present
4. SGT Subsystem A temperature is 245 °F

**Initiating Cues:**

The Control Room Supervisor directs you to place SGT Subsystem A into Decay Heat Removal mode as per Procedure 2.2.73 (10.1.1).





**JOB PERFORMANCE MEASURE FOR OPERATIONS**

**Task Title:** PERFORM APRM GAIN ADJUSTMENT (WITH A VALID CTP AVAILABLE WITH TWO RR LOOPS OPERATING)

Performance Checklist	Standards	Initials
1. Obtain copy of Procedure 6.Log.601, Att 2	Obtain a copy of Procedure 6.Log.601, Attachment 1  CUE: Provide 6.Log.601, Attachment 1	_____
2. Obtain copy of NPP 10.1, Att 1	Obtain a copy of NPP 10.1, Attachment 1  CUE: Provide NPP, Attachment 1.	_____
3. Verify APRM Status	At Panel 9-5, ensure APRM recorder is energized, APRM/IRM switch in APRM, and pen not stuck.	_____
4. Record CTP on Attachment 1	Record CTP from Official Case (CTP is CMWT on Official Case) or OD-3 on Att 1.	_____*
5. Calculate and record FRP on Attachment 1	Calculate and record FRP (FRP = CMWT/2381) on Att. 1.	_____*
6. Check Impulse Pressure vs. FRP on Att. 4	Check Impulse Pressure on DEH panel and compare reading to FRP on Att. 4.	_____
7. Record APRM Desired reading	Determine and record the APRM Desired reading on Att. 1. (APRM Desired = FRP x 100)	_____*
8. Record AGAF Initial on Att 1	Record the AGAF Initial from Official Case or OD-3 on Att. 1.	_____*
9. Bypass APRM Channel	At Panel 9-5, bypass APRM B with the Manual Bypass Joystick.	_____
10. APRM B in 'AVERAGE'	At Panel 9-14, verify or place in AVERAGE APRM B Meter Function Switch on Panel 9-14.	_____
11. Adjust gain to obtain APRM B Desired reading	At Panel 9-14, adjust the Gain Adjustment Potentiometer to obtain APRM Desired reading from Att. 1.  APRM B will not adjust	_____
<b>FAULT</b>	Notify CRS that APRM B cannot be adjusted.  CUE: Understand that APRM B cannot be adjusted, Continue and adjust APRM F.	_____*

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:**      PERFORM APRM GAIN ADJUSTMENT (WITH A VALID CTP AVAILABLE WITH  
 TWO RR LOOPS OPERATING)  
 =====

Performance Checklist	Standards	Initials
12. Bypass APRM F Channel	At Panel 9-5, bypass APRM F with the Manual Bypass Joystick.	_____
13. APRM F in 'AVERAGE'	At Panel 9-14, verify or place in AVERAGE APRM F Meter Function Switch on Panel 9-14.	_____
14. Adjust gain to obtain APRM F Desired reading	At Panel 9-14, adjust the Gain Adjustment Potentiometer to obtain APRM Desired reading from Att. 1.  APRM F will not adjust	
<b>FAULT</b>	Notify CRS that APRM F cannot be adjusted.  CUE: Understand that APRM F cannot be adjusted, CUE: Investigate and Recommend Action.	_____*
15. Review Tech. Specs.	Review Tech Spec (3.3.1.1 and possibly table 3.3.1.1-1)  Recommend that a half-scrum be placed in the affected trip system  CUE: Place a half-scrum in the affected trip system (channel B)	_____*
16. Inform the Control Room Supervisor that the task is complete	Inform the CRS that a half-scrum has be placed into trip channel B  CUE: The CRS acknowledges the report. This JPM is complete.	_____

## ATTACHMENT 1

### SIMULATOR SET-UP

A. Materials Required

NPP 10.1, Attachment 1 and 4

B. Initialize the Simulator in IC-18.

Batch File Name - none.

C. Change the simulator conditions as follows:

1. Triggers

None

2. Malfunctions

None

3. Remotes

None

4. Overrides

None

5. Panel Setup

a. Place Simulator in RUN.

b. Adjust APRM B gain to lower 3-4%.

c. Ensure  $\leq 2381$  MWT.

d. Ensure Official Case or OD-3 edit indicates only B APRM requires gain adjustment.

e. Obtain Official Case edit to provide to trainee.

NOTE: If valid computer edits cannot be obtained, insert BOGEY values for M545 and M546, substituting "1" on the PMIS IDT.

◆f. Place a red arrow on the Impulse Pressure indicator window on the DEH Panel and record in the Red Arrow Log that the indicator is OOS.

g. Place the simulator in FREEZE.

Note: If this JPM is to be performed more than once, snap the simulator into IC-0 after the panel setup is complete.

## ATTACHMENT 2

### Directions to Candidate:

When I tell you to begin, you are to perform any corrective actions for the data given. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to adjust APRM gains with a valid CTP available with two RR loops operating. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

### General Conditions:

1. The plant is in normal operation with two Recirc Pumps in service.
2. Just Increased reactor power from 90% to 100%

### Initiating Cues:

The Control Room Supervisor directs you to review the shiftly Official Case (Provide the data sheet.) and complete any required Attachment(s). Inform the CRS when the task is complete and provide him with completed Attachment(s) for his review.

ATTACHMENT 3

## **This page May Be Given To The Candidate**

### **Directions to Candidate:**

When I tell you to begin, you are to perform any corrective actions for the data given. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to adjust APRM gains with a valid CTP available with two RR loops operating. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

### **General Conditions:**

1. The plant is in normal operation with two Recirc Pumps in service.
2. Just Increased reactor power from 90% to 100%

### **Initiating Cues:**

The Control Room Supervisor directs you to review the shiftly Official Case (Provide the data sheet.) and complete any required Attachment(s). Inform the CRS when the task is complete and provide him with completed Attachment(s) for his review.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

Task No.: 203030A0401

=====  
**Task Title:** LEVEL RECOVERY DURING SHUTDOWN CONDITIONS USING LPCI  
=====

Trainee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Pass: \_\_\_\_\_ Fail: \_\_\_\_\_ Examiner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Additional Program Information:**

**\*\*FAULTED—FAULTED—FAULTED—FAULTED\*\***

1. Appropriate Performance Locations: CR/SIM
2. Appropriate Trainee Level: RO/SRO
3. Evaluation Method: \_\_\_\_\_ Simulate \_\_\_\_\_ Perform
4. Performance Time: Non-faulted 15 minutes; faulted 20 minutes
5. Importance Rating: 3.5
6. NRC K/A 203000 A4.05 4.3/4.1

**Directions to Examiner:**

NOTE: IF PERFORMING THE FAULTED JPM, USE STEPS 7a THROUGH 7f PRECEDED BY "◆"  
INSTEAD OF STEP 7.

1. This JPM evaluates the trainee's ability to start the RHR system in the LPCI Mode and recover RPV level from an inadvertent drain down resulting in SDC Isolation .
2. The examiner is to obtain the "JPM Comment Form" (Attachment C of ODG 206) prior to administering the JPM.
3. If this JPM is performed on the Simulator, only the cues preceded by "#" should be given.
4. Observe the trainee during performance of the JPM for proper use of self-checking methods.
5. All blanks must be filled out with either initials or an "NP" for "not performed"; an explanation may also be written in the space if desired by the examiner.
6. Brief the trainee, place the simulator in run, and tell the trainee to begin.

**Directions to Trainee:**

When I tell you to begin, you are to recover reactor water level using LPCI Loop A. Before you start, I will state the general plant conditions, the initiating cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to recover reactor water level using LPCI. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

=====  
**General Conditions:**

1. The plant is in cold shutdown.
2. Level dropped to approximately 100 inches on fuel zone indicators NBI-LI-91A and NBI-LI-91B before a valve lineup error was corrected.
3. RHR Loop B was in Shutdown Cooling mode prior to the RPV level drop.
4. RHR Loop A is in a LPCI standby lineup with suction from the Torus.
5. All prerequisites have been met and procedure 2.2.69.1 has been completed through step 8.1.5.

## JOB PERFORMANCE MEASURE FOR OPERATIONS

Task No.: 203030A0401

=====

**Task Title:** LEVEL RECOVERY DURING SHUTDOWN CONDITIONS USING LPCI

=====

### General References:

1. Procedure 2.2.69.1
2. NRC Bulletin 93-02 Supplement 1, Debris Plugging of ECCS Strainers

### General Tools and Equipment:

1. None.

### Special Conditions, References, Tools, Equipment:

1. Simulator Setup: See Attachment 1.
2. Critical checks denoted by "\*".
3. Simulator cues denoted by "#".
4. Faulted steps denoted by "◆".

### Task Standards:

1. Accurately locate, identify, operate and/or manipulate all component controls required to be utilized to recover reactor water level during shutdown conditions using LPCI.
2. Accurately locate and identify all instrumentation required to be monitored to recover reactor water level during shutdown conditions using LPCI.
3. Correctly interpret instrument and system responses and their interrelationships when recovering reactor water level during shutdown conditions using LPCI.

### Initiating Cue(s):

The Control Room Supervisor directs you to recover reactor vessel level to  $\geq 48$  inches on NBI-LI-86, SHUTDOWN LVL (Panel 9-4), at a flow rate of 7700 to 8400 gpm with RHR Loop A per procedure 2.2.69.1, step 8.1.5. Notify the CRS when RHR Loop A is injecting to the reactor vessel at a flow rate of 7700 to 8400 gpm.

NOTE: Place the Simulator in RUN and tell the trainee to begin..

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

Task No.: 203030A0401

=====

**Task Title:**      LEVEL RECOVERY DURING SHUTDOWN CONDITIONS USING LPCI

=====

Performance Checklist	Standards	Initials
1.      Ensure RR Pump A is secured	Ensure RR Pump A secured by noting one or more of the following on Panel 9-4:  _____ Circuit breakers 1CN and 1CS.  CUE:    GREEN lights are ON. RED lights are OFF.  _____ RR pump A differential press on DPI-156B.  CUE:    DP indicates 0 psid.  _____ A RR MG drive motor current.  CUE:    Meter indicated 0 amps.	_____
2.      CLOSE RR-MO-53A	Momentarily place to CLOSE the control switch for RHR-MO-53A, PUMP DISCHARGE VALVE.  CUE:    The GREEN light is ON. The RED light is OFF.	_____*
3.      Reset RHR-MO-25 valve isolation.	Depress the SDC ISOL RESET VLV 25A push-button.  CUE:    The AMBER light is OFF.	_____*
4.      CLOSE RHR-MO-27A	Place to CLOSE and hold the control switch for RHR-MO-27A, OUTBD INJECTION VLV, until the GREEN light comes ON.  CUE:    (15 sec. T. D.) The GREEN light is ON. The RED light is OFF.	_____*
5.      OPEN RHR-MO-25A	Momentarily place to OPEN the control switch for RHR-MO-25A, INBD INJECTION VLV.  CUE:    The RED light is ON. The GREEN light is OFF.	_____*

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

Task No.: 203030A0401

=====  
**Task Title:** LEVEL RECOVERY DURING SHUTDOWN CONDITIONS USING LPCI  
 =====

Performance Checklist	Standards	Initials
<p><b>◆Note: For faulted JPM, when RHR Pump A or C is started, IMMEDIATELY modify remote function (RH37 or RH39) to 100% for the pump that was not initially started.</b></p>		
<p>6. Start one RHR pump in LOOP A</p>	<p>Place to START Control Switch for RHR Pump A or C.</p> <p>CUE: The RED light on. GREEN light OFF.</p> <p>#CUE: (If asked) Station Operator states that indicated discharge pressure is 300 psig.)</p>	<p>_____*</p>
<p>◆7a. OPEN RHR-MO-27A to establish flow.</p>	<p>Place to OPEN Control Switch for RHR-MO-27A, A OUTBD INJECTION VLV, position valve to obtain flow ≤8400 GPM as indicated on RHR-FI-133A or RHR-FR-143.</p> <p>CUE: RHR-FI-133A flow is not responding; 8000 GPM cannot be established.</p>	<p>_____*</p>
<p>◆7b. Identify failure of the selected RHR pump to provide adequate flow.</p>	<p>Inform CRS that the pump is unable to provide desired flow.</p> <p>#CUE: CRS acknowledges and directs operate to take the actions necessary to continue restoring level with the A LOOP of RHR.</p>	<p>_____</p>
<p><b>Note: Operator may perform step 7e and then perform step 7d. If that is the case, then step 7c need not be performed.</b></p>		
<p>◆7c. CLOSE RHR-MO-27A.</p>	<p>Hold to CLOSE position the control switch for RHR-MO-27A, OUTBOARD INJECTION VALVE, until the valve indicates CLOSED.</p> <p>CUE: The GREEN light is ON. The RED light is OFF.</p>	<p>_____*</p>
<p>◆7d. Stop RHR Pump.</p>	<p>Place in STOP the control switch for RHR pump A(C).</p> <p>CUE: The GREEN light is ON. The RED light is OFF for RHR Pump A(C).</p>	<p>_____*</p>

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

Task No.: 203030A0401

=====  
**Task Title:**      LEVEL RECOVERY DURING SHUTDOWN CONDITIONS USING LPCI  
=====

<b>Performance Checklist</b>	<b>Standards</b>	<b>Initials</b>
◆7e.    Start the other RHR pump in LOOP A.	Place to START Control Switch for RHR Pump A or C.  CUE:    The RED light if ON (If Station Operator is asked) PI-107A and/or PI-107C indicate discharge pressure of 300 psig).	_____*
◆7f.    Throttle RHR-MO-27A to establish flow.	Position RHR-MO-27A, A OUTBD INJECTION VLV, to obtain ≤8400 GPM as indicated on RHR-FI-133A or RHR-FR-143.  CUE:    RHR-FI-133A is reading ≈ 8000 GPM.	_____*
8.      Inform the CRS that the task is complete.	Inform the Control Room Supervisor that RHR Loop A is injecting to the reactor vessel at a flow rate of 7700 to 8400 gpm.  #CUE:    The CRS acknowledges the report. This JPM is complete.	_____

**ATTACHMENT 1**

**SIMULATOR SET-UP**

A. Materials Required

None

B. Initialize the Simulator in IC-1.

Batch File Name - jpm/342008 if the JPM is to be run Faulted.

C. Change the simulator conditions as follows:

1. Triggers

<u>NUMBER</u>	<u>FILE NAME</u>	<u>DESCRIPTION</u>
E1	RHRPAON	RHR Pump A C/S to ON
E2	RHRPCON	RHR Pump C C/S to ON

2. Malfunctions

<u>Description</u>	<u>Trigger</u>	<u>TD</u>	<u>Severity</u>	<u>Ramp</u>	<u>Initial</u>
RR20A	None	0	100%	0	N/A
RR20B	None	0	100%	0	N/A

3. Remotes

<u>Description</u>	<u>Tag Number</u>	<u>Value</u>
◆RHR Pump A Torus Suction Valve	YPXRRH37	5%
◆RH39 RHR Pump C Torus Suction Valve	YPXRRH39	5%

**After batch file is loaded, assign Trigger E1 to remote function RH37 and Trigger E2 to remote function RH39.**

4. Overrides

None

5. Panel Setup

At VBD-M, ensure REC-MO-711 or REC-MO-714, associated with the in-service REC HX is open.

D. Place the Simulator in RUN. Insert malfunctions RR20A & RR20B at 100%. Allow reactor water level to decrease to approximately 100 inches on NBI-LI-91A(takes ~ 10 minutes), then remove the malfunctions.

E. **For faulted JPM, when RHR Pump A or C is started, IMMEDIATELY modify remote function (RH37 or RH39) to 100% for the pump that was not initially started.**

**ATTACHMENT 2**

**This Page May Be Given To The Candidate**

**Directions to Trainee:**

When I tell you to begin, you are to recover reactor water level using LPCI Loop A. Before you start, I will state the general plant conditions, the initiating cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to recover reactor water level using LPCI. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

**General Conditions:**

1. The plant is in cold shutdown.
2. Level dropped to approximately 100 inches on fuel zone indicators NBI-LI-91A and NBI-LI-91B before a valve lineup error was corrected.
3. RHR Loop B was in Shutdown Cooling mode prior to the RPV level drop.
4. RHR Loop A is in a LPCI standby lineup with suction from the Torus.
5. All prerequisites have been met and procedure 2.2.69.1 has been completed through step 8.1.5.

**Initiating Cues:**

The Control Room Supervisor directs you to recover reactor vessel level to  $\geq 48$  inches on NBI-LI-86, SHUTDOWN LVL (Panel 9-4), at a flow rate of 7700 to 8400 gpm with RHR Loop A per procedure 2.2.69.1, step 8.1.5. Notify the CRS when RHR Loop A is injecting to the reactor vessel at a flow rate of 7700 to 8400 gpm.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:**       START TORUS COOLING FROM THE ASD ROOM  
=====

Trainee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Pass: \_\_\_\_\_ Fail: \_\_\_\_\_ Examiner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Additional Program Information:**

1.       Appropriate Performance Locations: SIM/Plant
2.       Appropriate Trainee Levels: SRO
3.       Evaluation Method: \_\_\_\_\_ Simulate   \_\_\_\_\_ Perform
4.       Performance Time: 15 minutes
5.       Importance Rating: 4.0
6.       NRC K/A 295016 AA2.04 3.9/4.1

**Directions to Examiner:**

1.       This JPM evaluates the trainee's ability to start torus cooling from the ASD room.
2.       The examiner is to obtain the "JPM Comment Form" (Attachment C of ODG 206) prior to administering the JPM.
3.       If this JPM is performed on the Simulator, only the cues preceded by "#" should be given.
4.       Observe the trainee during performance of the JPM for proper use of self-checking methods.
5.       All blanks must be filled out with either initials or an "NP" for "not performed"; an explanation may also be written in the space if desired by the examiner.
6.       Brief the trainee, place the simulator in run, and tell the trainee to begin.

**Directions to Trainee:**

When I tell you to begin, you are to start torus cooling from the ASD room. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to start torus cooling from the ASD room. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

=====  
**General Conditions:**

1.       The control room has been evacuated.
2.       The immediate actions of 5.2.1 have been performed.
3.       HPCI is being operated from the ASD, and controlling reactor water level between 20" and 40".

**General References:**

1.       Emergency Procedure 5.2.1

## JOB PERFORMANCE MEASURE FOR OPERATIONS

=====

**Task Title:** START TORUS COOLING FROM THE ASD ROOM

=====

### General Tools and Equipment:

1. Keys to ASD .

### Special Conditions, References, Tools, Equipment:

1. Simulator Setup: See Attachment 1.
2. Critical checks denoted by "\*".
3. Simulator cues denoted by "#".

### Task Standards:

1. Accurately locate, identify, operate and/or manipulate all component controls required to be utilized to start torus cooling from the ASD panel.
2. Accurately locate and identify all instrumentation required to be monitored to start torus cooling from the ASD panel.
3. Correctly interpret instrument and system responses and their interrelationships when starting torus cooling from the ASD panel.

### Initiating Cue(s):

You are the ASD Operator. The Shift Manager directs you to initiate and maximize torus cooling per procedure 5.2.1. The Shift Manager is in the TSC; inform him when torus cooling has been placed in service and maximized.

NOTE: Place the Simulator in RUN and tell the trainee to begin.

Note: If performing the JPM in the simulator, provide the operator with a copy of Emergency Procedure 5.2.1, Attachment 1.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:**      START TORUS COOLING FROM THE ASD ROOM  
 =====

Performance Checklist	Standards	Initials
1. Place all RHR ISOLATION switches in ISOL	Place to ISOLATE the control switches for each of the following: _____ RHR-MO-34B _____ RHR-MO-66B _____ RHR-MO-13D _____ RHR-MO-15D _____ RHR-MO-65B _____ RHR-MO-27B _____ RHR-MO-12B _____ RHR-MO-39B _____ RHR-MO-16B _____ FLOW IND.  CUE: (AS operated) switches are in ISOLATE.	_____*
2. Ensure CLOSED:  RHR-MO-15D  RHR-MO-34B	Ensure CLOSED the following valves:  _____ RHR-MO-15D, PUMP D SDC SUCT  _____ RHR-MO-34B, SUPPR POOL COOLING INBD THROTTLE  CUE: (As checked) Green light ON. Red light OFF.	_____
3. Close RHR-MO-16B	Place to CLOSE the Control switch for RHR-MO-16B, LOOP B MIN FLOW BYP.  CUE: Green light ON. Red light OFF.	_____*
4. Close RHR-MO-27B	Place to CLOSE the Control switch for RHR-MO-27B, OUTBD INJECTION.  CUE: Green light ON. Red light OFF.	_____*

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

**Task Title:** START TORUS COOLING FROM THE ASD ROOM

Performance Checklist	Standards	Initials
5. Ensures valves OPEN:	Ensure OPEN the following valves: _____ RHR-MO-13D, PUMP D TORUS SUCT _____ RHR-MO-12B, HX OUTLET _____ RHR-MO-65B, HX INLET _____ RHR-MO-66B, HX BYPASS CUE: (As checked) RED light ON. GREEN light OFF.	_____
6. Open RHR-MO-39B	Place to OPEN the Control switch for RHR-MO-39B, SUPPR POOL COOLING/TORUS SPRAY OUTBD. CUE: RED light ON. GREEN light OFF.	_____ *
7. Open SW-MO-89B, RHR HX B SW OUTLET	Direct R.B. Operator to perform Att. 5, Step 3 #CUE: SO reports SW-MO-89B is open off its seat.	_____ *
8. Start SWB Pump	Direct C.B. Operator to start SWBP B or D and limit amps < 120 by throttling 89B #CUE: SO reports SWB Pump B running at 105 amps.	_____ *
9. Start RHR Pump D.	Direct Critical Swgr Operator to close breaker for RHR Pump D. #CUE: SO reports breaker closed for RHR Pump D.	_____ *
10. Throttle open RHR-MO-34B so flow > 2500 gpm	Throttle OPEN RHR-MO-34B until flow on RHR-FI-1133B is >2500 gpm CUE: Flow indicates 3000 gpm.	_____ *
11. RHR-MO-34B is throttled open.	Throttle OPEN RHR-MO-34B to obtain 4000 to 7000 gpm flow on RHR-FI-1133B. #CUE: SO reports Pump D amps are 140. CUE: Flow indicates 7000 gpm.	_____ *

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:**      START TORUS COOLING FROM THE ASD ROOM  
=====

<b>Performance Checklist</b>	<b>Standards</b>	<b>Initials</b>
12. Close RHR-MO-66B	Close RHR-MO-66B to maximize cooling.  CUE:    GREEN light ON, RED light goes OFF.	_____*
13. Inform Shift Manager that the task is complete.	Inform Shift Manager that Torus Cooling has been placed in service and is maximized.  #CUE:    The Shift Manager acknowledges the report. This JPM is now complete.	_____

**ATTACHMENT 1**

**SIMULATOR SET-UP**

A. Materials Required

None

B. Initialize the Simulator in IC-18.

Batch File Name - JPM/342059

C. Change the simulator conditions as follows:

1. Triggers

E2

2. Malfunctions

<u>Number</u>	<u>Title</u>	<u>Trigger</u>	<u>TD</u>	<u>Severity</u>	<u>Ramp</u>
MF AD06A	Complete Failure RV-71A	N/A	N/A	100%	N/A

3. Remotes

None

4. Overrides

<u>Tag</u>	<u>Trigger</u>	<u>TD</u>	<u>Value</u>	<u>Ramp</u>
ZDIRHRSWS3D[3] (RHR Pump D C/S)	2		START	

5. Panel Setup

a. Place all ISOLATION SWITCHES on HPCI ASD PANEL to ISOL.

b. Insert remote function RH36 to CLOSE off Trigger 2

Note: If this JPM is to be performed more than once, take a SNAPSHOT after panel setup is complete.

## ATTACHMENT 2

### Directions to Candidate:

When I tell you to begin, you are to start torus cooling from the ASD room. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to start torus cooling from the ASD room. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

### General Conditions:

1. The control room has been evacuated.
2. The immediate actions of 5.2.1 have been performed.
3. HPCI is being operated from the ASD, and controlling reactor water level between 20" and 40".

### Initiating Cues:

You are the ASD Operator. The Shift Manager directs you to initiate and maximize torus cooling per procedure 5.2.1. The Shift Manager is in the TSC; inform him when torus cooling has been placed in service and maximized.

**ATTACHMENT 3**

**This Page May Be Given To The Candidate**

**Directions to Candidate:**

When I tell you to begin, you are to start torus cooling from the ASD room. Before you start, I will state the general plant conditions, the Initiating Cues and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders and controls you would be using. State the position of controls as you would have manipulated them to start torus cooling from the ASD room. During performance, state the actions you are taking, e.g.: repositioning controls and observing instrumentation.

**General Conditions:**

1. The control room has been evacuated.
2. The immediate actions of 5.2.1 have been performed.
3. HPCI is being operated from the ASD, and controlling reactor water level between 20" and 40".

**Initiating Cues:**

You are the ASD Operator. The Shift Manager directs you to initiate and maximize torus cooling per procedure 5.2.1. The Shift Manager is in the TSC; inform him when torus cooling has been placed in service and maximized.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:** CONDUCT ALTERNATE ROD INSERTION (Vent Scram Air Header)  
=====

Trainee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Pass: \_\_\_\_\_ Fail: \_\_\_\_\_ Examiner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Additional Program Information:**

1. Appropriate Performance Locations: Plant
2. Appropriate Trainee Levels: SO/RO/SRO
3. Evaluation Method: **Simulate**
4. Performance Time: 15 minutes
5. Importance Factor 3.5
6. NRC K/A 201001 SG13(3.6/3.3); 295032 EA1.05(3.9/4.0); SG12(3.9/4.6)

**Directions to Examiner:**

1. This JPM evaluates the trainee's ability to conduct alternate rod insertion by venting the scram air header.
2. The examiner is to obtain the "JPM Comment Form" (Attachment C of ODG 206) prior to administering the JPM.
3. Observe the trainee during performance of the JPM for proper use of self-checking methods.
4. All blanks must be filled out with either initials or an "NP" for "not performed"; an explanation may also be written in the space if desired by the examiner.
5. Brief the trainee and tell the trainee to begin.

**Directions to Trainee:**

When I tell you to begin, you are to conduct alternate rod insertion by venting the scram air header. Before you start, I will state the general plant conditions, the Initiating Cues, and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders, and controls you would be using. State the position of controls as you would have manipulated them to conduct alternate rod insertion by venting the scram air header.

=====  
**General Conditions:**

1. A failure of RPS and ARI to insert the control rods has occurred.
2. The Control Room operator has placed all keylock RPS test trip switches to TRIP.
3. All CRD HCU scram valves remain closed.
4. TSC is not yet operational.
5. No ARMs are alarming.
6. The In-Containment Rad Monitors are reading 100 REM/HR.

**General References:**

1. Emergency Operating Procedure 5.8.3

## JOB PERFORMANCE MEASURE FOR OPERATIONS

=====

**Task Title:** CONDUCT ALTERNATE ROD INSERTION (Vent Scram Air Header)

=====

### General Tools and Equipment:

1. Crescent Wrench (attached by wire lanyard at IA-1601).

### Special Conditions, References, Tools, Equipment:

1. Critical checks denoted by "\*".

### Task Standards:

1. Accurately locate, identify, operate and/or manipulate all component controls required to conduct alternate rod insertion by venting the scram air header.
2. Accurately locate and identify all instrumentation required to be monitored to conduct alternate rod insertion by venting the scram air header.
3. Correctly interpret instrument and system responses and their interrelationships when conducting alternate rod insertion by venting the scram air header.

### Initiating Cue(s):

You have been assigned to conduct alternate rod insertion per Emergency Operating Procedure 5.8.3. The Control Room Supervisor directs you to manually vent the scram air header and to restore the scram air header when specifically directed to do so. Notify the CRS when the task is complete.

Note: Tell the trainee to begin.

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:** CONDUCT ALTERNATE ROD INSERTION (Vent Scram Air Header)  
 =====

Performance Checklist	Standard	Initials
1. Close IA-985	Close IA-985, SCRAM DISCHARGE VOLUME and SCRAM PILOT AIR SUPPLY ROOT (R-903-SE).  CUE: The handwheel is fully clockwise and the valve stem is down.	_____*
2. Ensure IA-244 Open.	Ensure open IA-244, PI-229 and PS-230 ROOT.  CUE: The handwheel is fully counter clockwise.	_____
3. Remove pipe cap from IA-1601.	Remove pipe cap from IA-1601, PI-229 and PS-230 DRAIN line, utilizing the wrench attached by lanyard to IA-1601.  CUE: The pipe cap is turning.  CUE: The pipe cap is removed.	_____*
4. Open IA-1601	Open IA-1601, PI-229 and PS-230 DRAIN.  CUE: Valve handwheel is turning counter-clockwise. There is the sound of rushing air.  CUE: The valve handwheel is fully counter clockwise.	_____*
5. Inform Control Room that venting is in progress.	Notify Control Room that venting is in progress.  CUE: When notified: <ul style="list-style-type: none"> <li>• Acknowledge venting is in progress and DIRECT operator to stay on the line.</li> <li>• (After ~1 minute) report that all control rods are inserted and DIRECT restoration of the scram air header.</li> </ul>	_____
6. Close IA-1601	Close IA-1601, PI-229 & PS-230 DRAIN.  CUE: The valve handwheel is fully clockwise.	_____*

**JOB PERFORMANCE MEASURE FOR OPERATIONS**

=====  
**Task Title:** CONDUCT ALTERNATE ROD INSERTION (Vent Scram Air Header)  
 =====

Performance Checklist	Standard	Initials
7. Install pipe cap on IA-1601	Instal and tighten the pipe cap on IA-1601, PI-229 & PS-230 DRAIN.  CUE: The pipe cap is in place and turning.  CUE: The pipe cap is tight.	_____*
8. Open IA-985	Open IA-985, CRD SCRAM DISCHARGE VOLUME & SCRAM PILOT AIR SUPPLY.  CUE: The handwheel is fully counter clockwise and the valve stem is up.	_____*
9. Inform the CRS that the task is complete	Inform the CRS that the scram air header has been manually vented and that the scram air header is restored.  CUE: The CRS acknowledges the report. This JPM is complete.	_____

## ATTACHMENT 1

### Directions to Candidate:

When I tell you to begin, you are to conduct alternate rod insertion by venting the scram air header. Before you start, I will state the general plant conditions, the Initiating Cues, and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders, and controls you would be using. State the position of controls as you would have manipulated them to conduct alternate rod insertion by venting the scram air header.

### General Conditions:

1. A failure of RPS and ARI to insert the control rods has occurred.
2. The Control Room operator has placed all keylock RPS test trip switches to TRIP.
3. All CRD HCU scram valves remain closed.
4. TSC is not yet operational.
5. No ARMs are alarming.
6. The In-Containment Rad Monitors are reading 100 REM/HR.

### Initiating Cues:

You have been assigned to conduct alternate rod insertion per Emergency Operating Procedure 5.8.3. The Control Room Supervisor directs you to manually vent the scram air header and to restore the scram air header when specifically directed to do so. Notify the CRS when the task is complete.

**ATTACHMENT 2**

**This Page May Be Given To The Candidate**

**Directions to Candidate:**

When I tell you to begin, you are to conduct alternate rod insertion by venting the scram air header. Before you start, I will state the general plant conditions, the Initiating Cues, and answer any questions you may have.

When simulating, physically point to any meters, gauges, recorders, and controls you would be using. State the position of controls as you would have manipulated them to conduct alternate rod insertion by venting the scram air header.

**General Conditions:**

1. A failure of RPS and ARI to insert the control rods has occurred.
2. The Control Room operator has placed all keylock RPS test trip switches to TRIP.
3. All CRD HCU scram valves remain closed.
4. TSC is not yet operational.
5. No ARMs are alarming.
6. The In-Containment Rad Monitors are reading 100 REM/HR.

**Initiating Cues:**

You have been assigned to conduct alternate rod insertion per Emergency Operating Procedure 5.8.3. The Control Room Supervisor directs you to manually vent the scram air header and to restore the scram air header when specifically directed to do so. Notify the CRS when the task is complete.