

Facility: Indian Point 2		Date of Examination: 3/10/2003		
Exam Level: RO/SROI		Operating Test No.: 1		
B.1: Control Room Systems				
	System	JPM Description	Type Code*	Safety Function
IP2 only →	S1 001 Rod Control	Stabilize reactor power at 10 ⁻⁸ amps following criticality	N,S,A,L	1
	S2 C 006 ECCS	Fill a Safety Injection Accumulator (Repeat from last NRC exam)	D,S	2
IP2 only →	S3 010 Pressurizer Pressure Control	Depressurize the RCS following a SGTR	M,S,A,E	3
IP2 only →	S4 041 Steam Dump	Cooldown the RCS to target temperature	N,S,A,E	4S
	S5 C 007 Pressurizer Relief Tank	Respond to PRT High Pressure	N,S,A,E	5
	S6 062 AC Distribution	Restore 6.9KV Busses from off-site power.	D,S	6
	S7 C 015 Nuclear Instrumentation	Return a Power Range Channel to service	N,S	7
B.2 Facility Walk-Through				
IP2 only →	P1 004 CVCS	Align City Water Cooling to Charging pumps	R,D,E	2
	P2 C 041 Steam Dump	Local Operation of Atmospheric Steam Dumps	D,E	4S
	P3 C 063 DC Distribution	Startup a Battery Charger	D	6
*	Type Codes:	(D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol Room, (S)imulator, (L)ow-Power, (R)CA, (E)OP/AB		

NOTES

- S1 New JPM. Candidate will establish a startup rate, block source range channels above P-6, and raise power to 10-8 amps. When candidate inserts control rods to stabilize power, Bank D Group 2 rods will drop, requiring a reactor trip.
- S3 Modified JPM. Normal spray and PORVs will be unavailable. Candidate will be required to use Aux Spray
- S4 New JPM. Candidate will be required to cooldown to target temperature during an SGTR, but must use alternate method (ADVs), for cooldown.
- S5 New JPM. PRT pressure reduction will not be effective when candidate attempts to spray. Candidate will be required to vent PRT to restore parameters within limits.
- S7 New JPM. Candidate will restore channel to service. Existing JPM only removes from service

Facility: Indian Point 2	Date of Examination: 3/10/2003
Exam Level: SROU	Operating Test No.: 1

B.1: Control Room Systems

	System	JPM Description	Type Code*	Safety Function
IP2 only → S1	001 Rod Control	Stabilize reactor power at 10 ⁻⁸ amps following criticality	N,S,A,L	1
S2				
IP2 only → S3	010 Pressurizer Pressure Control	Depressurize the RCS following a SGTR	M,S,E	3
S4				
S5 C	007 Pressurizer Relief Tank	Respond to PRT High Pressure	N,S,A,E	5
S6				
S7				

B.2 Facility Walk-Through

IP2 only → P1	004 CVCS	Align City Water Cooling to Charging pumps	R,D,E	2
P2 C	041 Steam Dump	Local Operation of Atmospheric Steam Dumps	D,E	4S
P3				

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

NOTES

- S1 New JPM. Candidate will establish a startup rate, block source range channels above P-6, and raise power to 10-8 amps. When candidate inserts control rods to stabilize power, Bank D Group 2 rods will drop, requiring a reactor trip.
- S3 Modified JPM. Normal spray and PORVs will be unavailable. Candidate will be required to use Aux Spray
- S5 New JPM. PRT pressure reduction will not be effective when candidate attempts to spray. Candidate will be required to vent PRT to restore parameters within limits.

Facility: Indian Point Unit 2 Task No.: N/A
 Task Title: Withdraw Control Rods to 10⁻⁸ Amps JPM No.: 2003 NRC S1
 K/A Reference: 001 A2.03 (3.5/4.2)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X
 Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: A reactor startup is in progress. All precautions and limitations of POP 1.2 are met. Step 4.35 is in progress. The reactor is critical.

Task Standard: The reactor is tripped due to dropped rods.

Required Materials: POP 1.2
AOI-16.1.1

General References: POP 1.2
AOI-16.1.1

Handouts: Marked up copy of POP-1.2

Initiating Cue: The CRS directs you to perform the actions necessary to establish a .3 - .5 DPM startup rate and raise power to 10⁻⁸ amps for critical data.

Time Critical Task: NO

Validation Time: 35 minutes

SIMULATOR SETUP

Reset to IC-204.

One SR and one IR selected on NR-45

PICS needs to have rod supervision updated

(Denote Critical Steps with an asterisk)

* **Performance Step: 1** COMMENCE rod withdrawal to increase reactor power to 1.0 E-8 amps.

Standard: Withdraws rods to establish .3 - .5 DPM SUR.

Comment:

Performance Step: 2 WHEN proper Source Range to Intermediate Range overlap has been verified as per graph NI-1, SWITCH the NIS recorder to one Intermediate Range AND one POWER Range.

Standard: Verifies overlap and switches NIS recorder.

Comment:

Performance Step: 3 IF an uncontrolled increase in Reactor power level OR startup rate occurs, INSERT control rods to stabilize power.

Standard: Verifies no uncontrolled power increase occurs.

Comment:

* **Performance Step: 4** WHEN P-6 is actuated, AND the LOW POWER PERMISSIVE BLOCK NOT ENGAGED alarm occurs at 1.0 E⁻¹⁰ amps, PERFORM the following:

a. BLOCK Source Range High Flux trips.

Standard: Depresses block pushbuttons.

Performance Step: b. OBSERVE SOURCE RANGE TRIP BLOCKED light lit.

Standard: Verifies light on Flight Panel.

Performance Step: c. VERIFY SOURCE RANGE LOSS OF DETECTOR VOLTAGE alarm actuates.

Standard: Verifies alarm actuates.

Performance Step: d. VERIFY both source range voltages read zero.

Standard: Verifies voltages are at zero.

Comment: **CUE: Another operator will perform source range voltage check.**

Performance Step: 5	VERIFY LOW POWER PERMISSIVE BLOCK NOT ENGAGED alarm.
Standard:	Verifies alarm clears. —
Comment:	
Performance Step: 6	Announce Criticality
Standard:	No action required.
Comment:	Cue if necessary: The announcement was already made
* Performance Step: 7	INSERT rods to stabilize power at 1.0 E-8 amps on Intermediate range.
Standard:	Inserts rods to stabilize power between 9×10^{-9} and 2×10^{-8} amps.
Comment:	Booth Instructor cue: Insert malfunction for dropped rods MAL CRF002AY ROD: P10 Dropped rod option 2 stationary coil MAL CRF002BA ROD: H8 Dropped rod option 2 stationary coil
* Performance Step: 8	DIAGNOSES dropped control rods and trips reactor per AOI-16.1.1.
Standard:	
Comment:	
Terminating Cue:	When the candidate trips the reactor due to multiple dropped rods, the evaluation for this JPM is complete

Job Performance Measure No.: IP2 NRC S1

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

INITIAL CONDITIONS: A reactor startup is in progress. All precautions and limitations of POP 1.2 are met. Step 4.35 is in progress. The reactor is critical.

INITIATING CUE: The CRS directs you to perform the actions necessary to establish a .3 - .5 DPM startup rate and raise power to 10^{-8} amps for critical data.

Facility: Indian Point Unit 2 Task No.: 006 004 04 01
 Task Title: Fill #21 Safety Injection Accumulator JPM No.: 2003 NRC S2
 K/A Reference: 006 A1.13 (3.5/3.7)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X
 Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions:

1. Plant is stable at 100% power.
2. A low-level condition exists in #21 SI Accumulator.
3. Support systems are aligned in accordance with their applicable COLs.
4. The Accumulator Topping Pump is "TAGGED OUT" and unavailable for use.
5. The vapor containment is NOT open for personnel access.

Task Standard: #21 Safety Injection Accumulator filled to -50% [+/-5% } with the 22 SI Pump secured, and 890A closed.

Required Materials: SOP 10.1.1

General References: SOP 10.1.1

Handouts: NONE

Initiating Cue: The CRS has instructed you to fill #21 SI Accumulator to 50%, using the 22 SI pump.

Time Critical Task: NO

Validation Time: 15 minutes

SIMULATOR SETUP

Reset to IC 210

21 SI Accumulator level reduced to 40% with N₂ gas pressure at ~ 670 psig so that Accumulator pressure exceeds 675 psig during refill activities.

(Denote Critical Steps with an asterisk)

Performance Step: 1 Obtain correct procedure.

Standard: SOP 10.1.1

Comment:

Performance Step: 2 Reviews Precautions & Limitations and Initial Conditions.

Standard: Reviews P&L's and initial conditions.

Comment: **CUE: If necessary, provide candidate with CUE that all P&L's and initial conditions have been met.**

Performance Step: 3 Verify Accumulators are NOT drained and depressurized.

Standard: Checks 21 Accumulator pressure and level indicators to determine that the accumulator has pressure and level – GREATER THAN ZERO.

Comment:

Performance Step: 4 Verify RCS pressure is greater than 1600 psig and RCS temperature is greater than 350°F.

Standard: Checks RCS pressure indication – GREATER THAN 1600 psig
OR
RCS temperature indicators are GREATER THAN 350°F.

Comment:

NOTE: The following valves are normally positioned to the position requested by the procedure, and Initiating Cue #4 informed the candidate that the COLs were completed.

Performance Step: 5 Ensure following SI pump alignment valves are OPEN and the Accumulator Drain/Test stops are CLOSED.

Standard: Determines from initial conditions or Evaluator CUE that SI pump alignment valves are OPEN and the Accumulator Drain/Test stops are CLOSED.

Comment: **CUE:** If necessary Cue candidate that ALL valves in steps 4.1.2.(3) and 4.1.2.(4) are in the required position.

Performance Step: 6 Ensure SI pump suction pressure at least 10 psig.

Standard: Checks SI pump suction pressure meter GREATER THAN 10 psig [PI 947].

Comment:

* **Performance Step: 7** Start the 22 SI Pump.

Standard: Places C.S. for 22 SI Pump to – START.

Comment:

Performance Step: 8 Verifies pump Start.

Standard: Checks 22 SI Pump RED breaker closed indicating light - LIT
AND
GREEN open indicating light – NOT LIT.

Comment:

* **Performance Step: 9** OPEN 890A Accumulator Fill Stop.

Standard: Places C.S. for 890A [21 Accum Fill Valve] to OPEN.

Comment:

Performance Step: 10 Verify 890A Accumulator Fill Stop OPEN.
Standard: Checks 890A [21 Accum Fill Valve] RED open indicating light – LIT

AND
Green closed indicating light – NOT LIT.

Comment:

Performance Step: 11 Fill Accumulator to obtain level of 50%
Standard: Check Accumulator level and pressure indication – RISING.

Comment:

NOTE: The simulator setup should insure that the Accumulator pressure will rise above 675 psig, thus requiring Venting of the Accumulator.

Performance Step: 12 Checks Accumulator pressure to determine if venting is required.
Standard: Checks Accumulator pressure meters, GREATER THAN 675 psig.

AND
DETERMINES THAT VENTING WILL BE REQUIRED.

Comment: Alarm on SB-1 at 675 psig

* **Performance Step: 13** Close 890a Accumulator Fill Stop.
Standard: Paces C.S. for 890A [21 Accum Fill Valve] to CLOSE.

Comment:

Performance Step: 14 Verify 890A Accumulator Fill Stop CLOSED.
Standard: Checks 890A [21 Accum Fill Valve] RED open indicating light – NOT LIT.
 AND
 GREEN closed indicating light – LIT.

Comment: **CUE: Role-play the CRS and instruct candidate to reduce Accumulator pressure to 660 psig.**

4.1.9.(1) **Performance Step: 15** Monitor the VC atmosphere.
Standard: Checks radiation monitors R41 Particulate/R42 Radiogas – STABLE.

Comment:

4.1.9.(2) **Performance Step: 16** Ensure the following valves closed:
 891A/B/C/D, HCV-943, PCV-863
Standard: Checks position indicating lights for 891A/B/C/D, HCV-943, PCV-863 all RED open indicating lights – NOT LIT.
 AND
 GREEN closed indicating lights – LIT.

Comment:

4.1.9.(3) * **Performance Step: 17** Open N₂ supply stop.
Standard: Places C.S. for 891A [N₂ supply stop] to – OPEN.

Comment:

Performance Step: 18 Verify N₂ supply stop open.
Standard: Checks 891A [N₂ supply stop] RED open indicating light – LIT.
 AND
 GREEN closed indicating light – NOT LIT.

Comment:

4.1.9(4)*

Performance Step: 19 Slowly Open HCV-943 to depressurize Accumulator.
Standard: Slowly TURNS the Controller for HCV-943 to COUNTERCLOCKWISE raise direction.

Comment:

Performance Step: 20 Verifies Accumulator pressure slowly dropping to 660 psig.
Standard: Checks Accumulator pressure meters, SLOWLY dropping to 660 psig.

Comment: **Note: Depressurization rate depends on how far open HCV-943 is. May cue candidate to open further to increase depressurization rate**

NOTE: When Accumulator pressure is between 635 and 660 psig the next step will be performed.

4.1.9(5)*

Performance Step: 21 Close HCV-943.
Standard: Slowly TURNS the Controller for HCV-943 to the CLOCKWISE direction UNTIL FULL LOWERED.

Comment:

4.1.9(6)*

Performance Step: 22 Close N₂ supply stop.
Standard: Places C.S. for 891A [N₂ supply stop] to – CLOSE.

Comment:

Performance Step: 23 Verify N₂ supply stop Closed.
Standard: Checks 891A [N₂ supply stop] RED open indicating light – NOT LIT.

AND

GREEN closed indicating light – LIT.

Comment:

*Back to
4.1.2(7)**

NOTE: RESTART filling the accumulator.

Performance Step: 24 OPEN 890A Accumulator Fill Stop.
Standard: Places C.S. for 890A [21 Accum Fill Valve] to OPEN.

Comment:

Performance Step: 25 Verify 890A Accumulator Fill Stop OPEN.
Standard: Checks 890A [21 Accum Fill Valve] RED open indicating light – LIT

AND
GREEN closed indicating light – NOT LIT.

Comment:

Performance Step: 26 If RWST level decreases to less than 37 feet and RWST level low alarm on panel SBF-1 has not annunciated, then direct I&C to investigate cause.
Standard: Checks RWST level GREATER THAN 37 feet.

Comment:

Performance Step: 27 If RCS temperature is greater than 350°F, maintain RWST level greater than 36 ft. 10 in.
Standard: Checks RCS temperature greater than 350°F, and RWST level GREATER THAN 36 ft. 10 in.

Comment:

* **Performance Step: 28** Fill Accumulator to obtain level of 50%
Standard: Checks Accumulator level and pressure indication – RISING to 50% (+/-5%).

Comment:

- * **Performance Step: 29** CLOSE 890A Accumulator Fill Stop.
Standard: Places C.S. for 890A [21 Accum Fill Valve] to CLOSE.
- Comment:**
- Performance Step: 30** Verify 890A Accumulator Fill Stop CLOSED.
Standard: Checks 890A [21 Accum Fill Valve] RED open indicating light – NOT LIT.
AND
GREEN closed indicating light – LIT.
- Comment:**
- * **Performance Step: 31** Stop the 22 SI Pump.
Standard: Places C.S. for 22 SI Pump to – STOP.
- Comment:**
- Performance Step: 32** Verifies pump Stop.
Standard: Checks 22 SI Pump RED breaker closed indicating light – NOT LIT.
AND
GREEN open indicating light – LIT.
- Comment:**
- Terminating Cue:** When accumulator level is within the normal band and SI system is realigned, the evaluation for this JPM is complete

Job Performance Measure No.: IP2 NRC S2

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

INITIAL CONDITIONS:

1. Plant is stable at 100% power.
2. A low-level condition exists in #21 SI Accumulator.
3. Support systems are aligned in accordance with their applicable COLs.
4. The Accumulator Topping Pump is "TAGGED OUT" and unavailable for use.
5. The vapor containment is NOT open for personnel access.

INITIATING CUE:

The CRS has instructed you to fill #21 SI Accumulator to 50%, using the 22 SI pump.

Facility: Indian Point Unit 2 Task No.: 300 050 05 01
 Task Title: Depressurize the RCS to Restore Inventory During a SGTR JPM No.: 2003 NRC S3
 K/A Reference: 038 EA1.03 (4.3/4.1)

Examinee: NRC Examiner:
 Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X
 Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: 1. A Steam Generator Tube Rupture occurred 30 minutes ago on 21 Steam Generator.
 2. All required actions of E-0 and E-3 have been completed up to and including the RCS cooldown.
 3. Ruptured SG Pressure has been verified increasing with adequate RCS subcooling.

Task Standard: The RCS is being depressurized to meet the requirements of E-3

Required Materials: E-3

General References: E-3

Handouts: NONE

Initiating Cue: The CRS has directed you to depressurize the RCS in accordance with E-3 commencing with step 17.

Time Critical Task: NO

Validation Time: 25 Minutes

SIMULATOR SETUP

Reset to IC 208

Spray valves failed closed.

PORV fails as is.

PORV block valve MOV 535 fails closed.

DO NOT PLACE SIMULATOR IN RUN UNTIL JUST BEFORE THE CANDIDATE IS READY
TO BEGIN

(Denote Critical Steps with an asterisk)

Performance Step: 1 Obtain correct procedure.

Standard: E-3

Comment:

* **Performance Step: 2** Check ability to use normal spray.

Standard: Normal spray verified not available and transition to step 17.

Comment:

Performance Step: 3 Verify PRZR PORV flow path.

Standard: Both PORV's verified available.

Comment:

* **Performance Step: 4** Commence depressurization using PRZR PORV.

Standard: PORVs unavailable for depressurization.

Comment:

Task Standard?

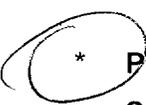
? How verified task Standard

Should highlight facility flow path

How determine Standard

Critical Step

*TPM doesn't meet criteria Performance Criteria "C"
See Appendix C
TPM Quality check list
See Specified performance Criteria item E. (1)-(6)*



* **Performance Step: 5**

Establish Aux Spray

- a. Maintain RCP seal injection 6 gpm to 10 gpm.
- b. Reduce charging pump speed to minimum flow.
- c. Close charging line flow control valve:
 - HCV-142
- d. Close the charging stop valves:
 - 204A – Loop 22
 - 204B – Loop 21
- e. Close the pressurizer spray valves:
 - PCV-455A
 - PCV-455B
- f. Open auxiliary spray valve:
 - 212
- g. Initiate spray slowly using HCV-142.
- h. Adjusted charging pump speed to increase spray flow.

Standard:

Established aux spray.

- a. Maintained RCP seal injection 6 gpm to 10 gpm.
- b. Reduced charging pump speed to minimum flow.
- c. Closed charging line flow control valve:
 - HCV-142
- d. Closed the charging stop valves:
 - 204A – Loop 22
 - 204B – Loop 21
- e. Closed the pressurizer spray valves:
 - PCV-455A
 - PCV-455B
- f. Closed the pressurizer spray valve:
 - 212 valve #?
- g. Initiated spray using HCV-142.
- h. Adjusted charging pump speed to increase spray flow.

Comment:

*Standard
How down
or scrubbed*

*How
done?
Standard*

Job Performance Measure No.: 2003 NRC S3

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

INITIAL CONDITIONS:

1. A Steam Generator Tube Rupture occurred 30 minutes ago on 21 Steam Generator.
2. All required actions of E-0 and E-3 have been completed up to and including the RCS cooldown.
3. Ruptured SG Pressure has been verified increasing with adequate RCS subcooling.

INITIATING CUE:

The CRS has directed you to depressurize the RCS in accordance with E-3 commencing with step 17.

Facility: Indian Point Unit 2 Task No.: 300 050 05 01
 Task Title: Depressurize the RCS to Restore Inventory During a SGTR JPM No.: 2003 NRC S3 SROU
 K/A Reference: 038 EA1.03 (4.3/4.1)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X
 Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions:

1. A Steam Generator Tube Rupture occurred 30 minutes ago on 21 Steam Generator.
2. All required actions of E-0 and E-3 have been completed up to and including the RCS cooldown.
3. Ruptured SG Pressure has been verified increasing with adequate RCS subcooling.
4. Normal Spray and Pressurizer PORVs have failed to depressurize the RCS

Task Standard: The RCS is being depressurized to meet the requirements of E-3

Required Materials: E-3

General References: E-3

Handouts: NONE

Initiating Cue: The CRS has directed you to depressurize the RCS in accordance with E-3 using Auxiliary Spray commencing with step 19.

Time Critical Task: NO

Validation Time: 25 Minutes

SIMULATOR SETUP

Reset to IC 208

Spray valves failed closed.

PORV fails as is.

PORV block valve MOV 535 fails closed.

DO NOT PLACE SIMULATOR IN RUN UNTIL JUST BEFORE THE CANDIDATE IS READY
TO BEGIN

(Denote Critical Steps with an asterisk)

Performance Step: 1 Obtain correct procedure.

Standard: E-3

Comment:

* Performance Step: 2

Establish Aux Spray

- a. Maintain RCP seal injection 6 gpm to 10 gpm.
- b. Reduce charging pump speed to minimum flow.
- c. Close charging line flow control valve:
 - HCV-142
- d. Close the charging stop valves:
 - 204A – Loop 22
 - 204B – Loop 21
- e. Close the pressurizer spray valves:
 - PCV-455A
 - PCV-455B
- f. Open auxiliary spray valve:
 - 212
- g. Initiate spray slowly using HCV-142.
- h. Adjusted charging pump speed to increase spray flow.

This looks like the same JPM as what is the difference
 S3"
 → Just tell

Same comments as other

Standard:

Established aux spray.

- a. Maintained RCP seal injection 6 gpm to 10 gpm.
- b. Reduced charging pump speed to minimum flow.
- c. Closed charging line flow control valve:
 - HCV-142
- d. Closed the charging stop valves:
 - 204A – Loop 22
 - 204B – Loop 21
- e. Closed the pressurizer spray valves:
 - PCV-455A
 - PCV-455B
- f. Closed the pressurizer spray valve:
 - 212
- g. Initiated spray using HCV-142.
- h. Adjusted charging pump speed to increase spray flow.

JPM version NOT met, path S3"

See Appendix "C" C(1)-(6) does NOT meet Quality Standard for performance criteria

Comment:

Job Performance Measure No.: 2003 NRC S3 SROU

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

INITIAL CONDITIONS:

1. A Steam Generator Tube Rupture occurred 30 minutes ago on 21 Steam Generator.
2. All required actions of E-0 and E-3 have been completed up to and including the RCS cooldown.
3. Ruptured SG Pressure has been verified increasing with adequate RCS subcooling.
4. Normal Spray and Pressurizer PORVs have failed to depressurize the RCS

INITIATING CUE:

The CRS has directed you to depressurize the RCS using Auxiliary Spray in accordance with E-3 commencing with step 19.

~~Step~~
Script Starts
at Step 18?

Facility: Indian Point Unit 2 Task No.: 300 049 05 01

Task Title: Cooldown to Target Temperature for SGTR JPM No.: 2003 NRC S4

K/A Reference: 038 EA1.36 (4.3/4.5)

Examinee:

NRC Examiner:

Facility Evaluator:

Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X
 Classroom _____ Simulator X Plant _____

*Mark
alt path
on case*

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: A Steam Generator Tube Rupture has occurred.
The team has performed actions of E-0 and transition to E-3 has been made.

Task Standard: Cooldown to target temperature is complete. No radioactive release initiated as a result of operator action.

Required Materials: E-3

General References: E-3

Handouts: NONE

Initiating Cue: The CRS directs you to perform cooldown to target temperature IAW E-3, step 6.

Time Critical Task: NO

Validation Time: 20 minutes

SIMULATOR SETUP

Reset to IC 202.

Allow simulator to run and ensure SG 21 Atmospheric dump valve is controlling at 1030 psig

(Denote Critical Steps with an asterisk)

* **Performance Step: 1** Initiate RCS Cooldown:
 Determine required core exit temperature:
Standard: Candidate determines that target temperature is 510°F for SG pressure equal to 1030 psig.

Comment:

* **Performance Step: 2** Dump steam to condenser from intact SG(s) at maximum rate. NOT to exceed 0.5 E6 lbs/hr per intact SG:
 a. Check condenser - AVAILABLE
 b. Place steam dump controller switch to manual and adjust for zero output.
 c. Transfer condenser steam dump to pressure control mode and adjust manual switch as necessary.

*Some comment do S3
 need QC
 ED performance*

Standard:

- Determines condenser is available.
- Places steam dump control in manual with zero output.
- Places steam dump in pressure control mode and adjusts to initiate cooldown.
- Determines steam dumps will not open.

Highlight in JPM as Alt Path transition

Comment:

Alt Path transition of what procedure step

* **Performance Step: 3** Manually dump steam at maximum rate from intact SG(s):
 • Use SG atmospheric steam dump:

Standard:

Operates 22, 23, 24 ATM steam dumps.

Comment:

Performance Step: 4 Core exit TCs – LESS THAN REQUIRED TEMPERATURE
Standard: Determines RCS temperature less than 510.

Comment:

Performance Step: 5 Stop RCS cooldown.
Standard: Closes atmospheric steam dumps.

Comment:

Terminating Cue: When the RCS is cooled to target temperature using intact SG Atmospheric Relief valves, the evaluation for this JPM is complete

Job Performance Measure No.: 2003 NRC S4

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

INITIAL CONDITIONS: A Steam Generator Tube Rupture has occurred.
The team has performed actions of E-0 and transition to E-3 has been made.

INITIATING CUE: The CRS directs you to perform cooldown to target temperature IAW E-3, step 6.

UNSAT delete procedure work didn't for pressure

Facility: Indian Point Unit 2 Task No.: 007 007 04 01

Task Title: Respond to PRT High Pressure JPM No.: 2003 NRC S5

K/A Reference: 007 A4.04 (2.6/2.6)

Examinee:

NRC Examiner:

Facility Evaluator:

Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X
Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: A PRZR Safety Valve is weeping.

Task Standard: PRT pressure is within normal band with annunciator SAF 3-5 extinguished.

Required Materials: ARP SAF
AOI 1.6

General References: ARP SAF
AOI 1.6

Handouts: NONE

Initiating Cue: The CRS has directed you to reduce PRT pressure to clear annunciator SAF 3-5 IAW the annunciator response procedure.

Time Critical Task: NO

Validation Time: 20 minutes

SIMULATOR SETUP

Reset to IC-201.

(Denote Critical Steps with an asterisk)

Performance Step: 1 OBSERVE the PRT pressure AND temperature indicators.

Standard: Determines pressure and temperature are high.

Comment:

what is an elevated temp & pressure 1/1#/?

Performance Step: 2 IF an elevated temperature condition exists, OPEN 519 and 552 Primary Water Isolation Valves AND 560 PRT Primary Water Spray to return PRT pressure to normal.

Standard: Opens valves to reduce pressure.

Performance Step: WHEN PRT pressure is normal, CLOSE 519, 552 AND 560.

Standard: Determines pressure is rising.

pressure not decrease level valves per

Comment: **Note: Alarm FBF 4-2, BORIC ACID BLENDER PRI WTR INLET LOW PRESS 90 PSIG, will annunciate**

Performance Step: 3 IF spray does NOT reduce the pressure adequately, VENT the PRT per AOI 1.6, Pressure Relief Tank High Pressure or High Level.

Standard: Determines pressure did NOT drop. Refers to AOI 1.6.

Comment:

Performance Step: 4	IF the PRT Pressure is high, AND can NOT be reduced adequately using the Primary Water Spray, VENT the PRT as follows:
	a. ENSURE 1786 AND 1787, Containment Vent Header Isolation Valve Control Switch, is in REMOTE (Panel SNF).
Standard:	Determines switch is in remote.
	CAUTION: WHEN the PRT is vented to the Vent Header, a possible radiogas release from the equipment associated with the waste gas system should be anticipated.
Performance Step:	b. DIRECT the NPO to verify OPEN 1786 AND 1787 Containment Vent Header Isolation valves (Waste Disposal Panel).
Standard:	Calls NPO – directs opening of valves.
Performance Step:	c. DIRECT the NPO to MONITOR the Vent Header pressure while cycling 516.
Standard:	Directs NPO to monitor pressure.
Comment:	CUE: If asked, vent header pressure is 2 psi and rising very slowly.
* Performance Step: 5	CYCLE 516, PRT Vent Valve, as required to avoid exceeding 10 psig on the Vent Header.
Standard:	Operates 516 while in touch with NPO. <i>↓ press to less than 7 psig</i>
Comment:	
	NOTE: The normal configuration for the RCDT is connected to the Vent Header, with a N₂ blanket.
Performance Step: 6	POSITION 1786 AND 1787, Containment Vent Header Isolation Valves, as directed by the CRS.
Standard:	
Comment:	CUE: CRS directs valves to be closed.
Terminating Cue:	When PRT pressure is within limits and venting is terminated, the evaluation for this JPM is complete

Job Performance Measure No.: 2003 NRC S5

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

INITIAL CONDITIONS: A PRZR Safety Valve is weeping.

INITIATING CUE: The CRS has directed you to reduce PRT pressure to clear
annunciator SAF 3-5 IAW the annunciator response procedure.

Window 3-5

SETPOINT

7 psig

PRESSURIZER
RELIEF TANK
HIGH PRESS
7 PSIG

NOTE

The alarm may actuate during a RCS depressurization for
draindown.

AUTOMATIC ACTION

None

OPERATOR ACTIONS

1. OBSERVE the PRT pressure and temperature indicators. _____
2. IF an elevated temperature condition exists, OPEN 519 and 552 Primary Water Isolation Valves and 560 PRT Primary Water Spray to return PRT pressure to normal. _____
 1. WHEN PRT pressure is normal, CLOSE 519, 552 and 560. _____
3. IF spray does NOT reduce the pressure adequately, VENT the PRT per AOI 1.6, Pressure Relief Tank High Pressure or High Level. _____
4. REFER to SOP 1.7, Reactor Coolant System Leakage Surveillance, Evaluations section. _____
5. IF WATER RELIEF occurs through the Pressurizer Safety Valves PCV-464, PCV-466, or PCV-468, NOTIFY the SM the safeties have to be tested per PT-R5A, Setting of Pressurizer Safety Valves by Wyle Labs . {NRC: 1.3.1} _____

CAUSES

Pressurizer Relief Tank (PRT) High pressure due to opening of a PORV or lifting of a safety.

TECHNICAL SPECIFICATION/STATION ADMINISTRATIVE ORDER

None

INITIATING DEVICES

PC-472, PRZ. RELIEF TANK PRESSURE

REFERENCE DRAWINGS

B225256, ELEM WIRING DIAG OF ANNUNCIATOR PANEL SAF SHT #175

PRESSURE RELIEF TANK HIGH PRESSURE OR HIGH LEVEL

Prepared by: Carl G. Reiniger Reviewer: _____

Reviewer: Anthony A. [Signature] Reviewer: _____

Reviewer: _____ Reviewer: _____

SNSC Review: Not Req. Per O&M Mtg Reviewer: _____
98-06-05A 6/15/98

Meeting No. / Date

Approval: Mark J. Hill 1 7/5/9

Signature Date

07/06/2001

Effective Date

BIENNIAL REVIEW

Reviewer / Date

Reviewer / Date

For use as field copy. Valid for 24 hours: _____
Control Room Supervisor Date / Time

CONTROLLED

CONTINUOUS USE

CREW "A"



TABLE OF CONTENTS

<u>STEP NO</u>	<u>DESCRIPTION</u>	<u>PAGE NO</u>
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1 PURPOSE

1.1 To provide guidance for addressing the following conditions in the Pressure Relief Tank (PRT):

- Venting the PRT when spray has NOT adequately reduced the pressure.
- Draining the PRT using the Reactor Coolant Drain Tank (RCDT) Pumps.

2 SYMPTOMS/INDICATIONS

2.1 The PRESSURIZER RELIEF TANK HIGH PRESS 7 PSIG Alarm annunciates.

2.2 The PRESSURIZER RELIEF TANK LEVEL HI 77% LO 67% Alarm annunciates, due to a high level condition associated with Power Operated Relief Valve (PORV) actuation.

3 AUTOMATIC ACTIONS

3.1 None

4 OPERATOR ACTIONS

4.1 IF the PRT Pressure is high, AND can NOT be reduced adequately using the Primary Water Spray, VENT the PRT as follows:

4.1.1 ENSURE 1786 AND 1787, Containment Vent Header Isolation Valve Control Switch, is in REMOTE (Panel SNF).

CAUTION

WHEN the PRT is vented to the Vent Header, a possible radiogas release from the equipment associated with the waste gas system should be anticipated.

4.1.2 DIRECT the NPO to verify OPEN 1786 AND 1787 Containment Vent Header Isolation valves (Waste Disposal Panel).

PRESSURE RELIEF TANK HIGH PRESSURE
OR HIGH LEVEL

AOI 1.6
Rev. 4

- 4.1.3 DIRECT the NPO to MONITOR the Vent Header pressure while cycling 516. _____
- 4.1.4 CYCLE 516, PRT Vent Valve, as required to avoid exceeding 10 psig on the Vent Header. _____
- 4.1.5 WHEN PRT pressure has been reduced to less than the alarm point OR to the value directed by Control Room Supervisor (CRS), VERIFY 516 CLOSED. _____

NOTE

The normal configuration for the RCDT is connected to the Vent Header, with a N₂ blanket.

- 4.1.6 POSITION 1786 AND 1787, Containment Vent Header Isolation Valves, as directed by the CRS. _____

CAUTION

Do NOT operate the RCDT pumps if the temperature of the water being pumped exceeds 170°F (SOP 5.2.4). {**COMMITMENT: 5.1.1**}

- 4.2 IF the PRT Level is high AND the RCDT Pumps are available, PUMP DOWN the PRT as follows:
 - 4.2.1 DETERMINE if the PRT contains aerated water by checking the O₂ on the Gas Analyzer (Sample Point PRT). _____
 - 4.2.2 IF the PRT contains aerated water, ALIGN the RCDT pumps to the waste holdup tank as follows:
 - 4.2.2.(1) CLOSE 1100, RCDT To CVCS Holdup Tank Stop. _____
 - 4.2.2.(2) OPEN 1731, RCDT To WHUT Stop. _____

**PRESSURE RELIEF TANK HIGH PRESSURE
OR HIGH LEVEL**

AOI 1.6
Rev. 4

4.2.3 IF the PRT is NOT aerated, ALIGN the RCDT to the CVCS holdup tank as follows:

4.2.3.(1) OPEN 1100, RCDT To CVCS Holdup Tank Stop. _____

4.2.3.(2) CLOSE 1731, RCDT To WHUT Stop. _____

4.2.4 PUMP DOWN the PRT as follows:

4.2.4.(1) OPEN the following valves:

- 1702 RCDT Pump Disch Containment Stop OPEN _____
- 1705 RCDT Pump Disch Containment Stop OPEN _____
- 523 PRT Drain Valve OPEN _____

4.2.4.(2) START the RCDT Pump(s). RUNNING _____

4.2.4.(3) WHEN the PRT level is at 67 - 77 percent, PLACE the RCDT Pump(s) in AUTO. AUTO _____

4.2.5 RE-ALIGN the following stops:

4.2.5.(1) CLOSE 523, PRT Drain Valve. _____

4.2.5.(2) CLOSE 1731, RCDT To WHUT Stop. _____

4.2.5.(3) OPEN 1100, RCDT To CVCS Holdup Tank Stop. _____

5 REFERENCES

5.1 COMMITMENTS

5.1.1 Safety Evaluation 95-399-EV, Section III.B.9, Paragraph 3.

Facility: Indian Point Unit 2 Task No.: 080 003 03 01

Task Title: Restore 6.9 KV Power From Off-Site, With the Unit Off-Line JPM No.: 2003 NRC S6

K/A Reference: 062 A4.01 (3.3/3.1)

See Comments

Examinee:

NRC Examiner:

Facility Evaluator:

Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X
 Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: 1. A Loss of Power has occurred due to loss of the Station Aux Transformer.
 2. 138 KV power will not be available for over ONE HOUR.
 3. 6.9KV busses 5 and 6 will be energized from 13.8KV power.

Task Standard: 6.9KV bus 5 is energized from 13.8KV.

Required Materials: AOI 27.1.1

General References: AOI 27.1.1

Handouts: Need 4 tags for breakers in Trip Pullout

Initiating Cue: The CRS has directed you to restore 6.9KV busses 5 and 6 in accordance with AOI 27.1.1, step 13.

Time Critical Task: NO

Validation Time: 10 Minutes

SIMULATOR SETUP

Reset to IC-209

Loss of SAT

AOI 27.1.1 completed through step 12.

Hang tags

(Denote Critical Steps with an asterisk)

Performance Step: 1 Obtain correct procedure.

Standard: AOI 27.1.1

Comment:

Performance Step: 2 Determine from the DO ^{that} is the time for 138KV power restoration to Unit 2 will exceed 30 minutes.

Standard: Initial conditions stated >1 hour.

Comment:

* **Performance Step: 3** Verify that 13.8KV power is available as follows:

- GT-1, feed from 13W92 *is closed*
- GT-2, feed to Units 2 and 3 *is closed*
- GT-1 13.8KV bus voltage indicated

OR
 52GT/2F, feed from 13W93 *is closed*
 52GT/BT, feed to Units 2 and 3 *is closed*

Standard: CLOSED per step 5.4.3.(1) ? *what does this mean?*

Comment: **Cue: Feed from 13W92 is available for use**

* **Performance Step: 4** Place the following breakers in pullout and caution tag:

- 6900V bus 1-5 tie breaker UT1-ST5
- 6900V bus 2-5 tie breaker UT2-ST5
- 6900V bus ³⁻⁶ 3-5 tie breaker UT3-ST6
- 6900V bus 4-6 tie breaker UT4-ST6

Hyper wrong switches?

Location of switches CR or collect

Standard: Switches placed in pullout IAW Step 13 RNO

Comment:

* **Performance Step: 5**

Place the following breakers in pullout:

- o 6900V bus 5 normal supply breaker ST-5
- o Station service xfrmr 5 supply breaker SS5
- o 6900V bus 6 normal supply breaker ST-6
- o Station service xfrmr 6 supply breaker SS6

Location of BKRS

Standard:

Switches placed in pullout IAW Step 13 RNO

Comment:

VT? SP see procedure which is correct?

* **Performance Step: 6**

Check 86ST5 and 86ST6 lockout relays reset

Standard:

Calls NPO to verify reset

Comment:

CUE: NPO reports lockouts are reset

Step 13 fin. procedure

Align Voltmeter Sel Switch to Bus to be energized?

* **Performance Step: 7**

With the DO's concurrence, CLOSE the Unit 1 GT transformer breaker 52GT25 and 52GT26.

Standard:

Breakers closed

Comment:

CUE: DO concurs.

Comment:

Terminating Cue:

When 6.9 KV bus 5 and 6 are aligned to the Station Auxiliary Transformer, the evaluation for this JPM is complete

Job Performance Measure No.: 2003 NRC S6

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

INITIAL CONDITIONS:

1. A Loss of Power has occurred due to loss of the Station Aux Transformer.
2. 138 KV power will not be available for over ONE HOUR.
3. 6.9KV busses 5 and 6 will be energized ^{to} from 13.8KV power. _{SP}

INITIATING CUE:

The CRS has directed you to restore 6.9KV busses 5 and 6 in accordance with AOI 27.1.1, step 13

Validated OK

Facility: Indian Point Unit 2 Task No.: 015 008 02 01

Task Title: Placing A Power Range Channel In Service JPM No.: 2003 NRC S7

K/A Reference: 015 A3.03 (3.9/3.9)

*See Comments
Minor fixes
Critical Step*

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X
Classroom _____ Simulator X Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: Power Range Channel N41 was removed from service due to a faulty comparator. The channel has been repaired and tested.

Task Standard: Power Range Channel N41 has been restored to service.

Required Materials: SOP 13.1

General References: SOP 13.1

Handouts: NONE

Initiating Cue: The CRS directs you to place power range channel N41 in service IAW SOP 13.1, Section 4.3.

Time Critical Task: NO

Validation Time: 20 minutes

SIMULATOR SETUP

Reset to IC-203.

~~Setup~~
• Store fuses in plastic bag
by way 1

(Denote Critical Steps with an asterisk)

- Performance Step: 1** ENSURE that the Power Mismatch Bypass Switch (Miscellaneous Control and Indication Panel) is in BYPASS for the selected channel.
- Standard:** Verifies switch in bypass.
- Comment:**
- Performance Step: 2** ENSURE that the Comparator Channel Defeat Switch (Comparator and Rate Drawer) is in BYPASS for the selected channel. *N41*
- Standard:** Verifies switch in bypass.
- Comment:**
- Performance Step: 3** PLACE the selected channel's Operation Selector switch in NORMAL.
- Standard:** Locates operation selector switch and verifies it is in normal position.
- Comment:**
- * **Performance Step: 4** ENERGIZE the selected channel by installing the Control Power AND the Instrument Power Fuses. *How many fuses? How are they labeled? Where are they located?*
- Standard:** Locates and installs fuses.
- Comment:** *→ NOTE: Instrument fuses* **Multiple alarms will clear**
- Performance Step: 5** VERIFY that the NIS POWER RANGE LOSS OF DETECTOR VOLTAGE alarm (Panel FCF) is NOT annunciated. *(3-2)*
- Standard:** Verifies annunciator not lit.
- Comment:**

Performance Step: 6	ALLOW the channel to warm up for 30 minutes.
Standard:	
Comment:	CUE: 30 minutes has elapsed.
Performance Step: 7	RETURN the selected channel to service as follows: <ul style="list-style-type: none">• PERFORM the applicable post maintenance test, as specified by I&C (e.g., CHECK detector current, power level, etc.)
Standard:	
Comment:	CUE: Already performed.
* Performance Step: 8	ENSURE rod control in MANUAL.
Standard:	Verifies rod control in manual
Comment:	
* Performance Step: 9	PLACE the Power Mismatch Bypass Switch (Miscellaneous Control and Indication Panel) to OPERATE, to re-establish the signal from the selected channel to the automatic rod control Power Mismatch Unit.
Standard:	Place switch in operate.
Comment:	
Performance Step: 10	WAIT at least 2 minutes to allow the Power Mismatch Unit to stabilize.
Standard:	
Comment:	NOTE: Must wait 2 minutes or rod motion will occur when rods are placed in AUTO.

- * **Performance Step: 11** IF directed by the CRS, RETURN Rod Control to automatic.
Standard:

Comment: **CUE: CRS directs rod control be placed in AUTO.**

- * **Performance Step: 12** PLACE both the Upper AND Lower Section switches (Detector Current Comparators) to NORMAL to re-establish the signal from the channel to the Detector Current Comparators:

Upper Section Switch NORMAL

Lower Section Switch NORMAL

Standard: Places upper and lower sections in NORMAL.

Comment:

- Performance Step: 13** VERIFY that both DEFEAT lights are extinguished.

Upper Section Channel Defeat Light EXTINGUISHED

Lower Section Channel Defeat Light EXTINGUISHED

Standard: Verifies both lights NOT lit.

Comment:

- * **Performance Step: 14** PLACE the Comparator Channel Defeat Switch (Comparator and Rate Drawer) to NORMAL to re-establish the signal from the selected channel to the Comparator Circuit.

Standard: Places switch in NORMAL.

Comment:

- Performance Step: 15** VERIFY that the COMPARATOR DEFEAT light is EXTINGUISHED.

Standard: Verifies light NOT lit.

Comment:

Original 21

* **Performance Step: 16** PLACE the Rod Stop Bypass Switch (Miscellaneous Control and Indication Panel) to OPERATE for the selected channel.

Standard: Places switch in operate.

Comment:

* **Performance Step: 17** PLACE the Dropped Rod Mode Switch to RESET AND RETURN to NORMAL for the selected channel to ensure channel dropped rod protection.

Standard: Locates switch turns to reset, then NORMAL.

Comment:

Alarm clears

~~What alarm?~~

Performance Step: 18 VERIFY that the Dropped Rod Bypass Lamp is EXTINGUISHED (NIS Rack).

Standard: Verifies light NOT lit.

Comment:

Performance Step: 19 VERIFY that the NIS Dropped Rod Bypass CH.# lamp is EXTINGUISHED (Flight Panel).

Standard: Verifies light not LIT.

Comment:

Performance Step: 20 VERIFY that the NIS TRIP BYPASS remote alarm is NOT annunciated (Panel FCF, Window 4-2).

Standard: Verifies annunciator OFF.

Comment:

Performance Step: 21 VERIFY that the NIS POWER RANGE DROPPED ROD STOP alarm is NOT annunciated (Panel FCF, Window 1-4).

Standard: Verifies annunciator OFF.

Comment:

Performance Step: 22 CHECK Bistable Proving Lamp for the selected channel ILLUMINATED.

Channel	Trip Switch	Location
N-41	Overtemp. Delta T	Foxboro Rack A-4, Ch. 1

Standard: Verifies N-41 in A-4 is LIT.

Comment:

* **Performance Step: 23** PLACE the Overtemperature Bistable Trip Switch for the selected channel to the UNTRIPPED position.

Standard: Places switch in UNTRIPPED position.

Comment: Alarm clears *what alarm?*

Performance Step: 24 ENSURE the following for the selected channel:

- bistable proving lamps are extinguished
- channel trip alarms are cleared (2-8 SFA)
- trip status lamp is extinguished (SOF for rack?)

Standard: Verifies alarms clear and lamps UNLIT.

Comment: (1) how many?
(2) where are they located?

- * **Performance Step: 25** ENSURE that the loop Delta-T Defeat Switch T/411A OR T/411B (Foxboro Rack B-8) is in NORMAL for the selected channel:
- | | |
|------------------------------|--------|
| Delta-T Defeat Switch T/411A | NORMAL |
|------------------------------|--------|

Standard: Places switch in NORMAL.

Comment:

Terminating Cue: When the Power Range Channel is returned to service and verified functional with alarms clear, the evaluation for this JPM is complete

Job Performance Measure No.: 2003 NRC S7

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

INITIAL CONDITIONS: Power Range Channel N41 was removed from service due to a faulty comparator. The channel has been repaired and tested.

INITIATING CUE: The CRS directs you to place power range channel N41 in service IAW SOP 13.1, Section 4.3.

Facility: Indian Point Unit 2 Task No.: 008 004 0404
 Task Title: Perform the Required Actions to Establish Backup Cooling to the Charging Pumps JPM No.: 2003 NRC P1
 K/A Reference: 004 K1.36 (2.6/2.8)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: X Actual Performance: _____
 Classroom _____ Simulator _____ Plant X

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: 1. The CCR has been evacuated due to a fire and AOI 27.1.9, Control Room Inaccessibility Safe Shutdown Control, has been implemented.
 2. CCW cooling to the Charging Pumps is not available.

Task Standard: Backup cooling has been established to the Charging Pumps.

Required Materials: AOI 27.1.9, Attachment 14

General References: AOI 27.1.9, Attachment 14

Handouts: None

Initiating Cue: The CRS has directed you to establish backup cooling to the Charging Pumps.

Time Critical Task: NO

Validation Time: 20 Minutes

(Denote Critical Steps with an asterisk)

- Performance Step: 1** Obtain correct procedure.
Standard: AOI2 27.1.9, Attachment 14, Step 1.
Comment:
- Performance Step: 2** Connect hose to ^{1873D,} Charging Pumps City Water Backup Header Stop.
Standard: Locate hose and 1873D connection.
Comment: **CUE: Hose connected.**
- Performance Step: 3** Route hose to drainage.
Standard: Simulate routing hose to suitable drainage.
Comment:
- * **Performance Step: 4** Close ¹⁸⁷⁴ Charging Pumps City Water Backup Telltale Stop.
Standard: 1874 to clockwise direction.
Comment: **CUE: Valve closed.**
- * **Performance Step: 5** Open Charging Pumps City Water Backup Outlet Header Stops.
Standard: 1873C and 1873D to counter-clockwise direction.
Comment: **CUE: Valves open.**
- * **Performance Step: 6** Close ^{756B} Charging Pumps Oil and Fluid Drive Coolers Outlet Stop.
Standard: 756B to Clockwise direction.
Comment: **CUE: Valve closed.**

Job Performance Measure No.: 2003 NRC P1

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

INITIAL CONDITIONS:

1. The CCR has been evacuated due to a fire and AOI 27.1.9, Control Room Inaccessibility Safe Shutdown Control, has been implemented.
2. CCW cooling to the Charging Pumps is not available.

INITIATING CUE:

The CRS has directed you to establish backup cooling to the Charging Pumps.

Number: AOI 27.1.9	Title: CONTROL ROOM INACCESSIBILITY SAFE SHUTDOWN CONTROL	Revision: REV. 32 N-1
-----------------------	--	--------------------------

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
------	--------------------------	-----------------------

ATTACHMENT 14

BACKUP COOLING WATER SUPPLY TO CHARGING PUMPS

1. **CONNECT** Hose to 1873D, Charging Pumps City Water Backup Outlet Header Stop
2. **ROUTE** Hose To Drainage
3. **CLOSE** 1874, Charging Pumps City Water Backup Telltale Stop
4. **OPEN** Charging Pumps City Water Backup Outlet Header Stops:
 - 1873C, Charging Pumps City Water Backup Outlet Header Stop
 - 1873D, Charging Pumps City Water Backup Outlet Header Stop
5. **CLOSE** 756B, Charging Pumps Oil And Fluid Drive Coolers Outlet Stop
6. **OPEN** Charging Pumps City Water Inlet Header Stops:
 - 1873A, Charging Pumps City Water Inlet Header Stop
 - 1873B, Charging Pumps City Water Inlet Header Stop
7. **CLOSE** 756A, Charging Pumps Oil And Fluid Drive Coolers Inlet Stop
8. **EXIT** this Attachment

END OF ATTACHMENT 14

Facility: Indian Point Unit 2 Task No.: 0840010404
 Task Title: Perform the Required Actions to Dump Steam Locally Using the Atmospheric Steam Dump Valve for 22 S/G (PCV-1135) JPM No.: 2003 NRC P2
 K/A Reference: 041 A4.06 (2.9/3.1)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: X Actual Performance: _____
 Classroom _____ Simulator _____ Plant X

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: 1. The CCR has been evacuated due to a fire and AOI 27.1.9.1, Control Room Inaccessibility with Power Available has been implemented.
 2. Radio communications have been established.

Task Standard: Instrument Air isolated and Nitrogen pressure indicated on pressure gauge P-2 (PI-6113) for PCV-1135.

Required Materials: AOI 27.1.9.1 Attachment 4

General References: AOI 27.1.9.1 Attachment 4

Handouts: None (Ensure candidate has a flashlight)

Initiating Cue: The CRS has directed you to dump steam locally from 22 Steam Generator using the Atmospheric Steam Dump Valve, PCV-1135.

Time Critical Task: NO

Validation Time: 15 Minutes

(Denote Critical Steps with an asterisk)

NOTE: Remind operator to NOT change any switch or valve positions.

Performance Step: 1 Obtains correct procedure and step.
Standard: AOI 27.1.9.1, Attachment 4, Step 1.

Comment:

Performance Step: 2 Observes cautions prior first step.
Standard: N/A

Comment:

Performance Step: 3 ^{clerk} Ensure the atmospheric steam dump isolation stop is OPEN.
Standard: Locates and indicates proper direction to ensure MS-3B is OPEN.

Comment: **CUE: After locating valve and indicating proper movement, cue that valve is OPEN.**

* **Performance Step: 4** Close the normal Instrument Air supply stop from the Positioner to the diaphragm, Valve F (V-1).
Standard: Locates and indicates proper direction to CLOSE IA-1203 for PCV-1135

Comment: **CUE: After valve is located and simulated movement, cue that valve is CLOSED.**

Performance Step: 5 Ensure the N2 pressure regulating valve H is closed.
Standard: Locates and indicates proper direction to CLOSE PRV-5610 for PCV-1135.

Comment: **CUE: After valve is located and simulated movement, cue that valve is CLOSED. (Set to minimum)**

- * **Performance Step: 6** OPEN the N2 Inlet Stop valve C (V-4).
Standard: Locates and indicates proper direction to OPEN SGN-501 for PCV-1135.
- Comment:** **CUE: After valve is located and simulated movement, cue that valve is OPEN.**
- * **Performance Step: 7** Slowly OPEN the N2 to the Diaphragm Stop valve D (V-2).
Standard: Locates valve and indicates proper direction to OPEN SGN-509 for PCV-1135.
- Comment:** **CUE: After valve is located and simulated movement, cue that valve is OPENING.**
- Performance Step: 8** Ensure the vent valve E (V-3) is CLOSED.
Standard: Locates valve and indicates proper direction to CLOSE IA-1009 for PCV-1135.
- Comment:** **CUE: After valve is located and simulated movement, cue that valve is CLOSED.**
- * **Performance Step: 9** While observing pressure on indicator M (P-2), throttle OPEN Nitrogen Regulator valve H.
Standard: Locates indicator and valve and indicates proper movement to throttle OPEN PRV-5610 for PCV-1135.
- Comment:** **CUE: After indicator and valve is located and proper movement simulated, cue that pressure is 15 psig and increasing.**
- Terminating Cue:** When the candidate is controller^{ing} 22 SG pressure locally, the evaluation for this JPM is complete

Job Performance Measure No.: 2003 NRC P2

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

INITIAL CONDITIONS:

1. The CCR has been evacuated due to a fire and AOI 27.1.9.1, Control Room Inaccessibility with Power Available has been implemented.
2. Radio communications have been established.

INITIATING CUE:

The CRS has directed you to dump steam locally from 22 Steam Generator using the Atmospheric Steam Dump Valve, PCV-1135.

Facility: Indian Point Unit 2 Task No.: 0630040304
 Task Title: Perform the Required Actions to Startup 23 Battery Charger JPM No.: 2003 NRC P3
 K/A Reference: 063 K1.03 (2.9/3.5)

Examinee: _____ NRC Examiner: _____

Facility Evaluator: _____ Date: _____

Method of testing:

Simulated Performance: X Actual Performance: _____
 Classroom _____ Simulator _____ Plant X

*Replanned
seen by others*

*See Comments
Step # 5, 8, 10
11, 13, 14*

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: 1. Plant conditions are shutdown and stable.
 2. Electrical power is available at the Motor Control Center (MCC) and the DC is aligned IAW COL 27.1.6.

Task Standard: #23 Battery Charger in service with current flow and proper battery room ventilation.

Required Materials: SOP 27.1.6

General References: SOP 27.1.6

Handouts: None

Initiating Cue: The CRS has instructed you place #23 Battery Charger in service.

Time Critical Task: NO

Validation Time: 20 Minutes

(Denote Critical Steps with an asterisk)

NOTE: Remind operator NOT to re-position any switches or equipment.

Performance Step: 1 Obtain correct procedure.
Standard: SOP 27.1.6, Step 4.2.1.

Comment:

Performance Step: 2 Review precautions and limitations and Initial Conditions.
Standard: N/A

Comment: **CUE: If requested, all Precautions and Limitations and Initial Conditions satisfied.**

Performance Step: 3 Ensure DC output breaker OFF.
Standard: Locates and verifies Output breaker OFF.

Comment: **CUE: After locating breaker, cue that it is OFF.**

Performance Step: 4 Ensure AC input breaker OFF.
Standard: Locates and verifies Input breaker OFF.

Comment: **CUE: After locating breaker, cue that it is OFF.**

* **Performance Step: 5** Close the 480 Volt breaker at the appropriate MCC. *26C*
Standard: Locates breaker on MCC 26C and indicates proper switch actuation to CLOSE. *3F*

Comment: **CUE: After locating and simulating proper movement, cue that breaker is CLOSED.**

- Performance Step: 6** Ensure the Equalizing-High Rate timer is set at ZERO.
Standard: Locates and verifies timer is at ZERO.
Comment: **CUE:** If necessary, cue that it is at ZERO.
- * **Performance Step: 7** Place the AC input breaker to ON.
Standard: Indicates proper movement of control to CLOSE AC input breaker.
Comment: **CUE:** After locating and simulating proper movement, cue that breaker is ON.
- * **Performance Step: 8** Check battery bank voltage with DVM. Record and adjust.
Standard: *How do this voltage checked - another*
Comment: **CUE:** Battery bank voltage 130vdc. *operator*
Do we expect applicant to bring Voltmeter to plant & demonstrate?
- * **Performance Step: 9** Place the DC output breaker to ON.
Standard: Indicates proper movement of control to CLOSE AC input breaker. *DC output breaker*
Comment: **CUE:** After locating and simulating proper movement, cue that breaker is ON.
- Performance Step: 10** Adjust Battery Charger OUTPUT DC VOLTS as necessary.
Standard: Verify OUTPUT DC VOLTS between 130 to 131 VDC
Comment: **CUE:** If required, inform operator DC Volts is 130V.
How do the output is adjusted?

Performance Step: 11	Record Battery Charger DC AMPERES OUTPUT.
Standard:	Record Amperes Output.
Comment:	<p>CUE: If required, inform operator DC Amps is 131 amps.</p> <p>NOTE: <u>Only step 4.2.5(6).a need be performed.</u> ?</p>
Performance Step: 12	Verify the output current increases to greater than zero.
Standard:	Locates and observes output current meter.
Comment:	CUE: After locating meter, report current is > 0.
Performance Step: 13	Check status of undervoltage relay target.
Standard:	Verify undervoltage relay target is reset.
Comment:	<p>Cue: Relay target is reset</p> <p><i>How do we verify?</i></p> <p><i>4.2.1(9) → Proceed</i></p> <p><i>Says .08 → .37</i></p>
Performance Step: 14	Verify that ΔP of the battery exhaust fan is .1 to .4 inches H ₂ O.
Standard:	Locates and verifies ΔP of 22 battery exhaust fan. <i>ON PI-7/44</i>
Comment:	CUE: <u>If necessary cue that ΔP is .2 inches H₂O.</u> <i>OKy</i>
Terminating Cue:	When the Battery Charger is energized and in service, the evaluation for this JPM is complete

Job Performance Measure No.: IP2 NRC P3

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

- INITIAL CONDITIONS:
1. Plant conditions are shutdown and stable.
 2. Electrical power is available at the Motor Control Center (MCC) and the DC is aligned IAW COL 27.1.6.

INITIATING CUE: The CRS has instructed you place #23 Battery Charger in service.