

Facility: CPNPP JPM # NRC RO/SRO A.1.a Task # RO1010 K/A # 2.1.25 3.9 / 4.2

Title: Calculate Shutdown Margin During a Cooldown From the Remote Shutdown Panel

Examinee (Print): _____

Testing Method:

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

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: At 1200 on 03/02/2009 the Unit 1 Reactor was tripped from 100% power and the Control Room was evacuated due to a fire. A plant cooldown was initiated at 1500 and RCS temperatures from the Remote Shutdown Panel are as follows:

- Reactor Coolant System temperature is 485°F.
- A SHUTDOWN MARGIN calculation is required every hour while cooling down from the Remote Shutdown Panel.
- RCS boron concentration at the time of trip was 400 ppm.
- At 1445, concentration by sample was 593 ppm.
- All control rods were fully inserted on the trip.
- Core Burnup is 18,500 MWD/MTU.
- Unit 1 was stable at 100% power for 47 days prior to the trip.

Initiating Cue: The Unit Supervisor directs you to PERFORM the 1500 SHUTDOWN MARGIN Calculation per OPT-301, Reactor Shutdown Margin Verification.

- A Subcritical Margin Calculation is NOT required.

Task Standard: Locate and correctly perform Critical Steps of OPT-301.

Required Materials: OPT-301, Reactor Shutdown Margin Verification, Rev. 10
 Comanche Peak Unit 1 Cycle 14 Nuclear Design Report, Rev. 0
 Comanche Peak Unit 1 Cycle 14 Core Operating Limits Report (COLR), Rev. 0

Validation Time: 45 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

CLASSROOM SETUP**EXAMINER:**

PROVIDE the examinee with a copy of:

- **OPT-301, Reactor Shutdown Margin Verification.**
- **Comanche Peak Unit 1 Cycle 14 Nuclear Design Report.**
- **Comanche Peak Unit 1 Cycle 14 Core Operating Limits Report (COLR).**

√ - Check Mark Denotes Critical Step

START TIME:

Perform Step: 1	Record the Unit, Cycle, MODE, and the date and time of this calculation.
Standard:	RECORD Unit 1, Cycle 14, MODE 3, Date and Time of this calculation on OPT-301-9 at top of Page.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 2	Record the following plant conditions: <ul style="list-style-type: none"> The RCS boron concentration and the date and time at which the sample was taken.
Standard:	RECORD 593 ppm, Date and Time sample was taken on OPT-301-9, Step A.1.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 3	Record the following plant conditions: <ul style="list-style-type: none"> The RCS average coolant temperature. IF the reactor is subcritical in MODE 2, 3, 4 or 5, THEN enter the average Tave.
Standard:	RECORD Tave of 485°F on OPT-301-9, Step A.2.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 4	Record the following plant conditions: <ul style="list-style-type: none"> The core average burnup in MWD/MTU. This value may be obtained from the Core History Data Base. Mark the appropriate burnup range per Section 5.1 of the SOR or NDR.
Standard:	RECORD 18,500 and CHECK the EOL box on OPT-301-9, Step A.3.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 5	Record the following plant conditions: <ul style="list-style-type: none"> The number of known stuck RCCAs.
Standard:	RECORD zero (0) on OPT-301-9, Step A.4.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 6	Record the following plant conditions: <ul style="list-style-type: none"> The Shutdown Margin reactivity requirement for the current MODE in units of pcm (e.g., 1.3% Δ K/K = 1300 pcm). This value may be found in the COLR.
Standard:	REFER to Unit 1 COLR, DETERMINE required SDM and RECORD 1300 pcm on OPT-301-9, Step A.5.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 7	Determine the uncorrected minimum boron concentration using NDR Table 5.13 or NDR Table 5.13, SDM BORON CONCENTRATION (ppm) AS A FUNCTION OF BURNUP AND CORE AVERAGE TEMPERATURE. <ul style="list-style-type: none"> The boron concentration for temperature values A.2 +10°F and A.2 -10°F are evaluated to determine the highest boron concentration. The highest boron concentration is the uncorrected minimum boron concentration used for B.1.
Standard:	PLOT 485°F vs burnup on NDR Figure 5.13. EVALUATE \pm 10 degrees either side to arrive at the most conservative value. DETERMINE that the required Boron is higher at 475°F vs 495°F and choose 475°F. DETERMINE Boron required at 18,500 MWD/MTU and RECORD 1171 \pm 10 PPM on OPT-301-9, Step B.1.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 8	Determine the xenon worth and samarium worth as described in this section. <ul style="list-style-type: none"> Enter the shutdown date, time and duration. <u>IF</u> the reactor is subcritical in MODE 2, 3, 4 or 5, <u>THEN</u> record the date and time that the reactor achieved 0% RTP and the duration of the shutdown from that point to the time of the SDM calculation.
Standard:	RECORD Date, Time and 3 hours since time of the trip on OPT-301-9, Step C.1.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 9	Determine the xenon worth and samarium worth as described in this section. <ul style="list-style-type: none"> Enter the "Power" or "Power-at-trip" as follows: <ul style="list-style-type: none"> If the reactor is subcritical in MODE 2, 3, 4 or 5 <u>AND</u> it is desired to use tables from the NDR to determine xenon or samarium worth based on the following restrictions, <u>THEN</u> check the "Power At Trip" box AND enter the power level at time of trip: <ul style="list-style-type: none"> The reactor tripped from equilibrium conditions.
Standard:	CHECK "Power at Trip" box and RECORD 100% on OPT-301-9, Step C.2.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 10	Determine the xenon worth at the current plant condition. <ul style="list-style-type: none"> With equilibrium conditions while the core is critical in MODE 1 or 2 OR with the core subcritical in MODE 2, 3, 4 or 5 following equilibrium conditions at time of reactor shutdown, it is preferable to use NDR Tables indicated below and the duration in C.1.
Standard:	PLOT 100% vs 3 hours on NDR Table 5.20 and INTERPOLATE between 2 hour and 4 hour value. RECORD 4505 ± 10 pcm on OPT-301-9, Step C.3.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 11	Determine the samarium worth at the current plant condition. <ul style="list-style-type: none"> With <u>equilibrium</u> conditions while the core is critical in MODE 1 or 2 <u>OR</u> with the core subcritical in MODE 2, 3, 4 or 5 following equilibrium conditions at time of reactor shutdown, it is preferable to use NDR Tables for the equilibrium value (time after plant trip = 0).
Standard:	REFER to NDR Table 5.23 and CHOOSE the "T=0" value for 100% power and RECORD 1057 pcm on OPT-301-9, Step C.4.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 12	Determine the Shutdown Margin boron concentration as described in this section. <ul style="list-style-type: none"> Determine the IBW using NDR Table 5.9.
Standard:	REFER to NDR Table 5.9 and PLOT 1171 ± 10 ppm vs 475°F and interpolate between the values at 1150 ppm and 1200 ppm. RECORD 11451 ± 50 pcm on OPT-301-9, Step D.1.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 13	Determine the Shutdown Margin boron concentration as described in this section. <ul style="list-style-type: none"> Determine most reactive RCCA worth using the MOST REACTIVE RCCA STUCK OUT value from NDR Table 6.1, SUMMARY OF REACTIVITY REQUIREMENTS AND SHUTDOWN MARGIN (use the highest value for 'Stuck Rod').
Standard:	REFER to NDR Table 6.1 and DETERMINE most reactive stuck rod worth at EOL and RECORD 877 pcm on OPT-301-9, Step D.2.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 14	Determine the Shutdown Margin boron concentration as described in this section. <ul style="list-style-type: none"> Calculate the worth correction using the formula shown on OPT-301-9.
Standard:	ADD 4505 pcm and 1057 pcm = 5562 ± 10 pcm. RECORD 5562 ± 10 pcm on OPT-301-9, Step D.3.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 15	Determine the Shutdown Margin boron concentration as described in this section. <ul style="list-style-type: none"> Determine the boron correction factor using NDR Figure 5.35, BORON CORRECTION FACTOR AS A FUNCTION OF XENON AND EFFECTIVE SAMARIUM WORTH.
Standard:	PLOT 5562 ± 10 pcm on NDR Figure 5.35 and RECORD 0.9275 ± 0.005 on OPT-301-9, Step D.4.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 16	Determine the Shutdown Margin boron concentration as described in this section. <ul style="list-style-type: none"> Calculate the integral boron worth for minimum Shutdown Margin by using the formula shown on OPT-301-9.
Standard:	$11415 - 5562 / 0.9275 = 6428$ RECORD 6307 ± 10 pcm on OPT-301-9, Step D.5.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 17 ✓	Determine the Shutdown Margin boron concentration as described in this section. <ul style="list-style-type: none"> Determine the Shutdown Margin boron concentration using the NDR Table 5.9 fro EOL.
Standard:	PLOT 475°F and 6310 pcm on NDR Table 5.9 and INTERPOLATE between the 600 ppm and 650 ppm values. RECORD 630 ± 15 ppm on OPT-301-9, Step D.6.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 18 ✓	Determine if the Shutdown Margin acceptance criteria is satisfied by the relationships shown on OPT-301-9. <ul style="list-style-type: none"> Circle the appropriate result of the SDM determination, "YES" or "NO".
Standard:	COMPARE current RCS Boron concentration of 593 ppm to required Boron concentration of 630 ± 10 ppm , and DETERMINE Shutdown Margin is not being met. CIRCLE the NO box on OPT-301-9, Step F.1.
Terminating Cue:	This JPM is complete.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

STOP TIME:	
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INITIAL CONDITIONS:

At 1200 on 03/02/2009 the Unit 1 Reactor was tripped from 100% power and the Control Room was evacuated due to a fire. A plant cooldown was initiated at 1500 and RCS temperatures from the Remote Shutdown Panel are as follows:

- Reactor Coolant System temperature is 485°F.
- A SHUTDOWN MARGIN calculation is required every hour while cooling down from the Remote Shutdown Panel.
- RCS boron concentration at the time of trip was 400 ppm.
- At 1445, concentration by sample was 593 ppm.
- All control rods were fully inserted on the trip.
- Core Burnup is 18,500 MWD/MTU.
- Unit 1 was stable at 100% power for 47 days prior to the trip.

INITIATING CUE:

The Unit Supervisor directs you to PERFORM the 1500 SHUTDOWN MARGIN Calculation per OPT-301, Reactor Shutdown Margin Verification.

- A Subcritical Margin Calculation is NOT required.

Facility: CPNPP JPM # NRC RO/SRO A.1.b Task # RO1413 K/A # 2.1.23 4.3 / 4.4

Title: Determine Time to Core Uncovery on a Loss of RHR

Examinee (Print): _____

Testing Method:

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

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: Given the following conditions:

- Unit 2 is in Mode 5 with water level in the Reactor Vessel at 53" above the core plate.
- The Pressurizer manway has been removed.
- Reactor Coolant System temperature is 100°F.
- The Reactor was shutdown on February 2nd at 12:00 noon after operating at 100% power for the last 100 days.
- Today is February 12th and the Unit experienced a total loss of RHR at 1215 PM.

Initiating Cue: The Unit Supervisor directs you to PERFORM the following per ABN-104, Residual Heat Removal System Malfunction, Attachments 5 and 19:

- DETERMINE Time to Saturation _____
- DETERMINE Time to Core Uncovery _____
- DETERMINE Containment Closure time _____

Task Standard: Correctly perform Critical Steps of ABN-104.

Required Materials: ABN-104, Residual Heat Removal System Malfunction, Rev. 8, PCN-4

Validation Time: 15 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

CLASSROOM SETUP

EXAMINER:

PROVIDE the examinee with a copy of:

- **ABN-104, Residual Heat Removal System Malfunction, Attachments 5 and 19.**

√ - Check Mark Denotes Critical Step

START TIME:

Perform Step: 1	Determine Time to Saturation: <ul style="list-style-type: none"> Calculate TIME AFTER SHUTDOWN.
Standard:	CALCULATE TIME AFTER SHUTDOWN = 240 hours and 15 minutes.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 2 √	Determine Time to Saturation: <ul style="list-style-type: none"> Find TIME TO SATURATION from Attachment 5, Page 1.
Standard:	REFER to Page 1 of Attachment 5 and PLOT the intersection of TIME AFTER SHUTDOWN (240 hours) and INITIAL TEMP (100°F) and DETERMINE: TIME TO SATURATION = 19 ± 1 minutes.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 3 √	Determine Time to Core Uncovery: <ul style="list-style-type: none"> Find TIME TO CORE UNCOVERY from Attachment 5, Page 2
Standard:	REFER to Page 2 of Attachment 5 and PLOT the intersection of TIME AFTER SHUTDOWN (10 days) and INITIAL RCS LEVEL (53 inches above the core plate) and DETERMINE: TIME TO CORE UNCOVERY = 1.9 ± 0.1 hours.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 4 √	Determine Containment Closure time: <ul style="list-style-type: none"> Find CONTAINMENT CLOSURE TIME from Attachment 19.
Standard:	REFER to Attachment 19 of ABN-104 and PLOT the intersection of Time After Shutdown and RADIOLOGICAL ENVIRONMENT CURVE and DETERMINE: CONTAINMENT CLOSURE TIME = 60 ± 10 minutes.
Terminating Cue:	This JPM is complete.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

STOP TIME:

INITIAL CONDITIONS:

Given the following conditions:

- Unit 2 is in Mode 5 with water level in the Reactor Vessel at 53" above the core plate.
- The Pressurizer manway has been removed.
- Reactor Coolant System temperature is 110°F.
- The Reactor was shutdown on February 2nd at 12:00 noon after operating at 100% power for the last 100 days.
- Today is February 12th and the Unit experienced a total loss of RHR at 1215 PM.

INITIATING CUE:

The Unit Supervisor directs you to PERFORM the following per ABN-104, Residual Heat Removal System Malfunction, Attachments 5 and 19:

- DETERMINE Time to Saturation _____
- DETERMINE Time to Core Uncovery _____
- DETERMINE Containment Closure time _____

Facility: CPNPP JPM # NRC RO A.2 Task # 5013 K/A # 2.2.37 3.6 / 4.6
 Title: Verify Pressurizer Heater Bank Operability

Examinee (Print): _____

Testing Method:

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

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: Unit 1 is in MODE 4 performing a Plant Heatup to MODE 3 per IPO-001A, Plant Heatup From Cold Shutdown To Hot Standby.

Initiating Cue: The Unit Supervisor directs you to VERIFY Pressurizer Heater Operability per IPO-001A, Plant Heatup From Cold Shutdown To Hot Standby, Section 5.3, Heatup and Pressurization for MODE 3 Entry, Step 5.3.1.

Task Standard: Locate and correctly perform Critical Steps of IPO-001A.

Required Materials: IPO-001A, Plant Heatup From Cold Shutdown To Hot Standby, Rev. 20, PCN-11

Validation Time: 20 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

SIMULATOR SETUP**BOOTH OPERATOR:**

INITIALIZE to IC-5 or any Mode 4 Initial Condition and then perform the following:

- VERIFY Pressurizer Heater Groups are OPERABLE.
- PLACE MANUAL flags on the following instruments:
 - 1-PK-455A, PRZR PRESS CTRL Controller.
 - 1-PK-455B, RC LOOP 1 SPR VLV CTRL Controller.
 - 1-PK-455C, RC LOOP 4 SPR VLV CTRL Controller.

PERFORM the following after each JPM:

- CLEAR data from the Plant Computer.

EXAMINER:

PROVIDE the examinee with a copy of:

- IPO-001A, Plant Heatup from Cold Shutdown to Hot Standby with initials and N/As as appropriate up to Step 5.3.1.

√ - Check Mark Denotes Critical Step

START TIME:

Perform Step: 1 √	Verify at least two groups of pressurizer heaters have a capacity of at least 150 KW each. <ul style="list-style-type: none"> Energize each group of heaters, as required, to measure current.
Standard:	ENERGIZE Backup Heater Group A by SELECTING 1/1-PCPR1, PRZR BACKUP HTR GROUP A to ON.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 2 √	Verify at least two groups of pressurizer heaters have a capacity of at least 150 KW each. <ul style="list-style-type: none"> Record voltage and current <u>AND</u> calculate power for each group of heaters. (Voltage x current x 0.001732 = power)
Standard:	RECORD Voltage from 1EB3 or V6303A and Current from 1-II-PCPR1 or A6801A. <ul style="list-style-type: none"> PERFORM and RECORD the power calculation and VERIFY result is greater than 150 KW.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 3 √	Verify at least two groups of pressurizer heaters have a capacity of at least 150 KW each. <ul style="list-style-type: none"> Energize each group of heaters, as required, to measure current.
Standard:	ENERGIZE Backup Heater Group B by SELECTING 1/1-PCPR2, PRZR BACKUP HTR GROUP B to ON.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 4 √	Verify at least two groups of pressurizer heaters have a capacity of at least 150 KW each. <ul style="list-style-type: none"> Record voltage and current <u>AND</u> calculate power for each group of heaters. (Voltage x current x 0.001732 = power)
Standard:	RECORD Voltage from 1EB2 or V6302A and Current from 1-II-PCPR2 or A6802A. <ul style="list-style-type: none"> PERFORM and RECORD the power calculation and VERIFY result is greater than 150 KW.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 5 ✓	Verify at least two groups of pressurizer heaters have a capacity of at least 150 KW each. <ul style="list-style-type: none"> Energize each group of heaters, as required, to measure current.
Standard:	ENERGIZE Control Heater Group C by SELECTING 1/1-PCPR, PRZR CTRL HTR GROUP C to ON.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 6 ✓	Verify at least two groups of pressurizer heaters have a capacity of at least 150 KW each. <ul style="list-style-type: none"> Record voltage and current <u>AND</u> calculate power for each group of heaters. (Voltage x current x 0.001732 = power)
Standard:	RECORD Voltage from 1EB1 or V6301A and Current from 1-II-PCPR or A6803A. <ul style="list-style-type: none"> PERFORM and RECORD the power calculation and VERIFY result is greater than 150 KW.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 7 ✓	Verify at least two groups of pressurizer heaters have a capacity of at least 150 KW each. <ul style="list-style-type: none"> Energize each group of heaters, as required, to measure current.
Standard:	ENERGIZE Backup Heater Group D by SELECTING 1/1-PCPR3, PRZR BACKUP HTR GROUP D to ON.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 8 ✓	Verify at least two groups of pressurizer heaters have a capacity of at least 150KW each. <ul style="list-style-type: none"> Record voltage and current <u>AND</u> calculate power for each group of heaters. (Voltage x current x 0.001732 = power)
Standard:	RECORD Voltage from 1EB4 or V6304A and Current from 1-II-PCPR3 or A6804A. <ul style="list-style-type: none"> PERFORM and RECORD the power calculation and VERIFY result is greater than 150 KW.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 9	Operate pressurizer heaters as needed for plant conditions.
Standard:	CONTROL Pressurizer Heaters manually to maintain pressure in band.
Examiner Cue:	Stabilize pressure at existing pressure +/- 25 psig.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 10	<u>IF</u> any group(s) of pressurizer heaters does <u>NOT</u> have a capacity of ≥ 150 KW, <u>THEN</u> initiate a LCOAR per ODA-308.
Standard:	DETERMINE all Pressurizer Heater Groups are OPERABLE.
Terminating Cue:	This JPM is complete.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

STOP TIME:	
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INITIAL CONDITIONS: Unit 1 is in MODE 4 performing a Plant Heatup to MODE 3 per IPO-001A, Plant Heatup From Cold Shutdown To Hot Standby.

INITIATING CUE: The Unit Supervisor directs you to VERIFY Pressurizer Heater Operability per IPO-001A, Plant Heatup From Cold Shutdown To Hot Standby, Section 5.3, Heatup and Pressurization for MODE 3 Entry, Step 5.3.1.

Facility: CPNPP JPM # NRC SRO A.2 Task # SO1202 K/A # 2.2.12 3.7 / 4.1

Title: Review Centrifugal Charging Pump Surveillance

Examinee (Print): _____

Testing Method:

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

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: Unit 1 is in Mode 1 and the Surveillance testing of Centrifugal Charging Pump, 1-01, was just completed.

Initiating Cue: The Shift Manager directs you to REVIEW of the completed surveillance for Centrifugal Charging Pump, 1-01.

Task Standard: Locate and correctly perform Critical Steps of OPT-201A.

Required Materials: OPT-201A, Charging System, Rev. 13, PCN-7
 OPT-201A-2, Centrifugal Charging Pump 01 Data Sheet, Rev. 15

Validation Time: 25 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

CLASSROOM SETUP**EXAMINER:**

PROVIDE the examinee with a copy of:

- **OPT-201A, Charging System and a completed OPT-201A-2, Centrifugal Charging Pump 01 Data Sheet.**

√ - Check Mark Denotes Critical Step

START TIME:

Perform Step: 1	Reviews Centrifugal Charging Pump 01 Data Sheet : <ul style="list-style-type: none"> Step 8.2.1.G 1-FI-121 Flow is 80 GPM.
Standard:	DETERMINE documented flow is 80 GPM.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 2	Reviews Centrifugal Charging Pump 01 Data Sheet : <ul style="list-style-type: none"> Verify documentation of Step 8.2.1.H Data.
Standard:	DETERMINE Step 8.2.1.H Data is documented.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 3 √	Reviews Centrifugal Charging Pump 01 Data Sheet : <ul style="list-style-type: none"> Verify pump data Step 8.2.1.J is documented and pump head calculation is correct and is within limits.
Standard:	DETERMINE pump data Step 8.2.1.J is documented and calculated pump head is 2387 PSID which is LESS than the required minimum of the ACTION LIMIT LOW (2400.2).
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 4	Reviews Centrifugal Charging Pump 01 Data Sheet : <ul style="list-style-type: none"> Verify Step 8.2.1.J vibration measurements are within specifications given.
Standard:	DETERMINE all vibration readings are within specification.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 5 √	Reviews Centrifugal Charging Pump 01 Data Sheet : <ul style="list-style-type: none"> Verify temperatures and times in Step 8.2.1.J are documented.
Standard:	DETERMINE that temperatures in Step 8.2.1.J are documented, however, the time documented does NOT meet the requirement for a minimum of two (2) minutes at the test parameters.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 6	Reviews Centrifugal Charging Pump 01 Data Sheet : <ul style="list-style-type: none"> Verify charging flow documented and within specification in Step 8.2.1.L.
Standard:	DETERMINE charging flow is documented and greater than or equal to 100 GPM.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 7	Reviews Centrifugal Charging Pump 01 Data Sheet : <ul style="list-style-type: none"> Verify Step 8.2.1.L seal injection flows and charging pump suction and discharge pressures documented.
Standard:	DETERMINE seal injection flows and charging pump suction and discharge pressures are documented.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 8	Reviews Centrifugal Charging Pump 01 Data Sheet : <ul style="list-style-type: none"> Verify Step 8.2.1.M 1/1-8110 and 1/1-8111 are documented as open.
Standard:	DETERMINE Step 8.2.1.M 1/1-8110 and 1/1-8111 are documented as OPEN.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 9	Reviews Centrifugal Charging Pump 01 Data Sheet : <ul style="list-style-type: none"> Verify Step 8.2.1.P seal injection flows and calculations.
Standard:	DETERMINE proper values from Step 8.2.1.L and that the flow calculation is 35.3 GPM.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 10	Reviews Centrifugal Charging Pump 01 Data Sheet : <ul style="list-style-type: none"> Verify Step 8.2.1.Q charging flow data and calculation is accurate and greater than 50 GPM.
Standard:	DETERMINE that Step 8.2.1.Q charging flow calculation data is correct and flow is 66.7 GPM. VERIFY calculated flow is >50 GPM.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 11	Reviews Centrifugal Charging Pump 01 Data Sheet : <ul style="list-style-type: none"> • Verify Step 8.2.1.R pump head calculation and data is correct.
Standard:	DETERMINE Step 8.2.1.R pump head calculation and data is correct.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 12 ✓	Reviews Centrifugal Charging Pump 01 Data Sheet : <ul style="list-style-type: none"> • Verify Step 8.2.1.S calculated head is above the Figure 1 curve.
Standard:	DETERMINE that calculated pump head is NOT above the Figure 1 curve.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 13 ✓	Reviews Centrifugal Charging Pump 01 Data Sheet : <ul style="list-style-type: none"> • Verify Step 8.2.1.T 1-8481B, 1-8497 and 1-8480B full closed stroke test is satisfactory by flow being greater than or equal to 50 GPM and above the Figure 1 curve.
Standard:	DETERMINE that flow is greater than 50 GPM but is NOT above Figure 1 curve and pump head and closure tests are UNSAT.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 14	Reviews Centrifugal Charging Pump 01 Data Sheet : <ul style="list-style-type: none"> • Verify Step 8.2.1.U 1-8381 full open by flow being greater than or equal to 50 GPM.
Standard:	DETERMINE 1-8381 full open test is acceptable by greater than 50 GPM flow.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 15	Reviews Centrifugal Charging Pump 01 Data Sheet : <ul style="list-style-type: none"> • Verify Step 8.2.1.U charging line check valve tested is circled.
Standard:	DETERMINE Step 8.2.1.U charging line check valve tested is CIRCLED.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 16	Reviews Centrifugal Charging Pump 01 Data Sheet : <ul style="list-style-type: none"> Verify Step 8.2.1.U selected check valve full open test results are greater than 50 GPM.
Standard:	DETERMINE Step 8.2.1.U selected check valve full open test results are greater than 50 GPM.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 17 ✓	Reviews Centrifugal Charging Pump 01 Data Sheet : <ul style="list-style-type: none"> Step 8.2.1.V Verify measured data is within limits.
Standard:	DETERMINE that data is outside of acceptance criteria for pump head and 1-8481B, 1-8497 and 1-8480B full closed stroke test. Also DETERMINE that the minimum two minute stabilization time at test parameters was not met.
Terminating Cue:	This JPM is complete.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

STOP TIME:	
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INITIAL CONDITIONS: Unit 1 is in Mode 1 and the Surveillance testing of Centrifugal Charging Pump, 1-01, was just completed.

INITIATING CUE: The Shift Manager directs you to REVIEW of the completed surveillance for Centrifugal Charging Pump, 1-01.

Facility: CPNPP JPM # NRC RO A.3 Task # RO5005 K/A # 2.3.7 3.5 / 3.6

Title: Determine RWP Entry Requirements and Identify Low Dose Waiting Area

Examinee (Print): _____

Testing Method:

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

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: There is a leak on the sample line from Steam Generator 1-03. A clearance DANGER tag must be hung on 1MS-0159, SG 1-03 SMPL ISOL VLV 2407 UPSTRM ISOL VLV SB 810 NORTH PENETRATION VLV RM // N. SIDE to isolate the sample line as it leaves Containment.

Initiating Cue: The Unit Supervisor directs you to PERFORM the following:

- DETERMINE the Dose Monitoring Requirements to enter the area where the valve is located.
- DETERMINE the Protective Clothing Requirements to enter the area where the valve is located.
- IDENTIFY the "Low Dose Waiting Area" for the room you will be entering and the dose rate in that area.

Task Standard: Correctly perform Critical Steps of STA-656 and RPI-606.

Required Materials: STA-656, Radiation Work Control, Rev.14
 STA-656-2, CPSES Radiation Work Permit, Rev. 4 (Handout)
 STA-660, Control of High Radiation Areas, Rev. 13
 RPI-606, Radiation Work and General Access Permits, Rev. 17, PCN-1
 Valve Locator Map for Unit 1 Safeguards Building EL 810 Room #S 77N and 77S
 Survey Map for U-1 SG 810' Pipe Pen Area Train B 1-077A

Validation Time: 20 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

CLASSROOM SETUP**EXAMINER:**

PROVIDE the examinee with a copy of:

- **STA-656-2, CPSES Radiation Work Permit.**
- **Valve Locator Map for Unit 1 Safeguards Building EL 810' Room #S 77N and 77S.**
- **Survey Map for U-1 SG 810' Pipe Pen Area Train B 1-077A.**

PROVIDE the following references:

- **STA-656, Radiation Work Control.**
- **STA-660, Control of High Radiation Areas.**
- **RPI-606, Radiation Work and General Access Permits.**

√ - Check Mark Denotes Critical Step

START TIME:

Perform Step: 1	Determine location of 1MS-0159 with respect to the survey map.
Standard:	LOCATE 1MS-0159 using the Valve Locator Map for Unit 1 Safeguards Building EL 810 Room #S 77N and 77S and COMPARE the location to the survey map. DETERMINE 1MS-0159 is located inside the High Radiation Area, near a Hot Spot and the area is contaminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 2 √	Review the RWP and STA-660 for requirements to enter the High Radiation / Contaminated Area.
Standard:	DETERMINE the Dose Monitoring Requirements to enter the area where the valve is located includes High Radiation Area Entry Requirements: <ul style="list-style-type: none"> • Dosimetry, in addition to TLD, consisting of a radiation monitoring device which continuously indicates the radiation dose rate in the area, <u>or</u> • Electronic Dosimeter, <u>or</u> • Radiation Protection coverage.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 3 √	Review the RWP and STA-660 for requirements to enter the High Radiation / Contaminated Area.
Standard:	DETERMINE the Protective Clothing Requirements to enter the area where the valve is located includes Contaminated Area Entry Requirements: <ul style="list-style-type: none"> • Cloth Booties, Cloth Coveralls, and Cloth Hood • Glove Liners • Rubber Gloves and Rubber Overshoes
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 4 √	Determine "Low Dose Waiting Area" and the dose rate in that area.
Standard:	DETERMINE that once inside the HRA the "Low Dose Waiting Area" is at the South end near the entrance with a Dose Rate of 1.7 mrem/hr.
Terminating Cue:	This JPM is complete.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

STOP TIME:

INITIAL CONDITIONS:

There is a leak on the sample line from Steam Generator 1-03. A clearance DANGER tag must be hung on 1MS-0159, SG 1-03 SMPL ISOL VLV 2407 UPSTRM ISOL VLV SB 810 NORTH PENETRATION VLV RM // N. SIDE to isolate the sample line as it leaves Containment.

INITIATING CUE:

The Unit Supervisor directs you to PERFORM the following:

- DETERMINE the Dose Monitoring Requirements to enter the area where the valve is located.
- DETERMINE the Protective Clothing Requirements to enter the area where the valve is located.
- IDENTIFY the "Low Dose Waiting Area" for the room you will be entering and the dose rate in that area.

Dose Monitoring Requirements to Enter the Area where the Valve is Located:

Protective Clothing Requirements to Enter the Area where the Valve is Located:

Low Dose Waiting Area (location and area dose rate):

Facility: CPNPP JPM # NRC SRO A.3 Task # SO1039 K/A # 2.3.6 2.0 / 3.8

Title: Approve a Liquid Waste Release Permit

Examinee (Print): _____

Testing Method:

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

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: Unit 1 is shutdown for refueling and the following conditions exist:

- RHR Pump 1-01 is operating with RHR Pump1-02 in standby.
- Circulating Water Pump 1-03 is operating and the water boxes are open on the other three Circulating Water Pumps.
- X-RE-5253, Liquid Waste effluent Radiation Monitor is out of service.
- Waste Water Holdup Tank #2 is being released.
- Unit 2 is operating at 100% with all systems in normal alignments.
- The previous shift placed Plant Effluent Tank (PET) #1 on recirculation and initiated a request for release.
- The permit has just been received in the Control Room to release PET #1 and the Unit 1 Circulating Water System has been selected as the discharge path.

Initiating Cue: The Shift Manager directs you to:

- REVIEW the permit and plant conditions and approve the release if acceptable.
- If unacceptable, IDENTIFY the minimum actions required for the release to be performed.

Task Standard: Locate and correctly perform Critical Steps of STA-603.

Required Materials: STA-603, Control of Station Radioactive Effluents, Rev. 19, PCN-0

Validation Time: 10 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

CLASSROOM SETUP**EXAMINER:**

PROVIDE the examinee with a copy of:

- **STA-603, Control of Station Radioactive Effluents.**
- **COMPLETE STA-603-10 up to the Shift Managers review with the following errors:**
 - **NONE of the requirements for X-RE-5253 being OOS will have been performed.**

√ - Check Mark Denotes Critical Step

START TIME:

Perform Step: 1 √	Review the permit, STA-603-10.
Standard:	REVIEW the permit, STA-603-10, and DETERMINE based on the initial conditions that the permit requires a second independent sample due to the Liquid Effluent Monitor X-RE-5253 being out of service and that STA-603-13, Batch Radioactive Effluent Release Verification, is required to be attached.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 2 √	Based on the initial conditions determine the required minimum dilution requirements are not met for a release via Unit 1.
Standard:	DETERMINE that a minimum of two Circulating Water pumps are required for a release.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 3 √	Determine if dilution requirements for release are met on Unit 2.
Standard:	DETERMINE that all four Circulating Water Pumps are running on Unit 2 which exceeds the minimum required of two Circulating Water pumps running.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 4	Determine if simultaneous release of the Plant Effluent Tank #1 and Waste Water Holdup Tank #1 is allowed.
Standard:	REVIEW STA-603, Control of Station Radioactive Effluents, and DETERMINE that simultaneous release from Plant Effluent Tank #1 and Waste Water Holdup Tank #1 is allowed.
Terminating Cue:	This JPM is complete.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

STOP TIME:

INITIAL CONDITIONS:

Unit 1 is shutdown for refueling and the following conditions exist:

- RHR Pump 1-01 is operating with RHR Pump 1-02 in standby.
- Circulating Water Pump 1-03 is operating and the water boxes are open on the other three Circulating Water Pumps.
- X-RE-5253, Liquid Waste effluent Radiation Monitor is out of service.
- Waste Water Holdup Tank #2 is being released.
- Unit 2 is operating at 100% with all systems in normal alignments.
- The previous shift placed Plant Effluent Tank (PET) #1 on recirculation and initiated a request for release.
- The permit has just been received in the Control Room to release PET #1 and the Unit 1 Circulating Water System has been selected as the discharge path.

INITIATING CUE:

The Shift Manager directs you to:

- REVIEW the permit and plant conditions and approve the release if acceptable.
- If unacceptable, IDENTIFY the minimum actions required for the release to be performed.

Facility: CPNPP JPM # NRC SRO A.4 Task # XXXX K/A # 2.4.41 2.9 / 4.6
 Title: Notification Message Form

Examinee (Print): _____

Testing Method:

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

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: Given the following Unit 1 conditions:

- A Steam Generator Tube Rupture is in progress on Steam Generator #2.
- A Loss of Offsite Power occurred and both Emergency Diesels are supplying Safeguards Buses.
- All Engineered Safety Feature functions have actuated successfully.
- A Main Steam Safety Valve on Steam Generator #2 lifted and will not reseal.
- The Pressurizer is empty.
- Reactor Coolant System pressure has stabilized at approximately 1800 psig.
- Radiation Monitor FFL-160 is reading 10 µc/ml.

Initiating Cue: The Shift Manager directs you to PERFORM the following:

- REVIEW the completed EPP-203-8, Notification Message Form for the above event.
- If required, MAKE any corrections to the Notification Message.

Task Standard: Locate and correctly perform Critical Steps of EPP-203.

Required Materials: EPP-203, Notifications, Rev. 14
 EPP-203-8, Notification Message Form, Rev. 11
 EPP-201, Assessment of Emergency Action Levels Emergency Classification and Plan Activation, Rev. 11

Validation Time: 15 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

CLASSROOM SETUP**EXAMINER:**

PROVIDE the examinee with a copy of:

- **A completed 203-8, Notification Message Form for the Initial Conditions stated (with errors).**
- **EPP-203, Notifications.**
- **EPP-201, Assessment of Emergency Action Levels Emergency Classification and Plan Activation.**

√ - Check Mark Denotes Critical Step

START TIME:

Perform Step: 1	Review the provided 203-8, Notification Message Form.
Standard:	REVIEW the provided 203-8, Notification Message Form.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 2	Identify errors contained in the 203-8, Notification Message Form.
Standard:	IDENTIFY errors contained in the 203-8, Notification Message Form by REVIEWING EPP-201, Assessment of Emergency Action Levels Emergency Classification and Plan Activation.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 3 √	Determine if flowpath shown on the Notification Form is correct.
Standard:	DETERMINE that flowpath shown on the Notification Form of 3A, 3J, 3K, and 3H with a classification of SITE AREA EMERGENCY is <u>incorrect</u> for the given conditions.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Examiner Note:	Based on the Bases for 3J with RCS pressure stabilizing at greater than SI pump discharge head.
Perform Step: 4 √	Determine correct flowpath and classification.
Standard:	DETERMINE correct flowpath for the Notification Form is 3A, 3J, 3M, 3N, and 3O to an ALERT.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 5 √	Make corrections to Notification Message Form.
Standard:	CORRECT the Notification Message Form as follows: <ul style="list-style-type: none"> CHANGE Item #4 from SITE AREA EMERGENCY to ALERT. CHANGE Item #5 from 3A, 3J, 3K, and 3H to 3A, 3J, 3M, 3N, and 3O.
Terminating Cue:	This JPM is complete.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

STOP TIME:

INITIAL CONDITIONS:

Given the following Unit 1 conditions:

- A Steam Generator Tube Rupture is in progress on Steam Generator #2.
- A Loss of Offsite Power occurred and both Emergency Diesels are supplying Safeguards Buses.
- All Engineered Safety Feature functions have actuated successfully.
- A Main Steam Safety Valve on Steam Generator #2 lifted and will not reset.
- The Pressurizer is empty.
- Reactor Coolant System pressure has stabilized at approximately 1800 psig.
- Radiation Monitor FFL-160 is reading 10 $\mu\text{c}/\text{ml}$.

INITIATING CUE:

The Shift Manager directs you to PERFORM the following:

- REVIEW the completed EPP-203-8, Notification Message Form for the above event.
- If required, MAKE any corrections to the Notification Message.

Facility: CPNPP JPM # RO NRC S-1 Task # RO1022 K/A # 001.A2.18 3.2 / 3.8 SF-1
 Title: Respond to Continuous Control Rod Withdrawal

Examinee (Print): _____

Testing Method:

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

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: Unit 1 Reactor Startup is in progress per IPO-002A, Plant Startup from Hot Standby with Reactor power at 10^{-8} amps. Rod Control is in MANUAL.

Initiating Cue: The Unit Supervisor directs you to RAISE power to 2% by Control Rod withdrawal per IPO-002A, Plant Startup from Hot Standby, Step 5.4.1.B.

Task Standard: Locate and correctly perform Critical Steps of ABN-712.

Required Materials: IPO-002A, Plant Startup From Hot Standby, Rev. 20, PCN-6
 ABN-712, Rod Control System Malfunction, Rev. 10, PCN-10

Validation Time: 4 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

SIMULATOR SETUP**BOOTH OPERATOR:**

INITIALIZE to IC-8 or any 10^{-8} amps power Initial Condition and then PERFORM the following:

- INSERT malfunction RP01, Automatic Reactor Trip Failure.
- INSERT malfunction RP13C, Manual Reactor Trip Failure (both).
- INSERT malfunction RD01D, Continuous Rod Withdrawal (conditional: upon rod withdrawal) when examinee starts rod withdrawal.
- PLACE GTGC MODE 2 on front PC Screen.

EXAMINER:

PROVIDE the examinee with a copy of:

- IPO-002, Plant Startup From Hot Standby, with initials and N/As as appropriate up to Step 5.4.1.B.

√ - Check Mark Denotes Critical Step

START TIME:

Booth Operator:	ACTIVATE RD01D when rods are being withdrawn.
Perform Step: 1 √	Establish a startup rate of approximately 0.5 dpm to increase Reactor power to approximately 2%.
Standard:	PLACE 1/1-FLRM, Control Rod Motion Control Switch in the OUT position and WITHDRAW rods to attain 0.5 DPM SUR on NI-35D and NI-36D.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 2 √	Release IN-HOLD-OUT Switch after achieving 0.5 DPM SUR.
Standard:	RELEASE 1/1-FLRM, Control Rod Motion Control Switch to the neutral position and IDENTIFY continued outward rod motion.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 3	Verify Rod Motion - NORMAL <ul style="list-style-type: none"> • Rod direction • Rod speed • Rod demand • Rod sequencing • Bank overlap • Rod alignment (±12 steps)
Standard:	DETERMINE rod demand is not normal.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 4	Perform the following: <ul style="list-style-type: none"> • Ensure 1/u-RBSS, CONTROL ROD BANK SELECT - NOT IN AUTO
Standard:	VERIFY 1/1-RBSS, CONTROL ROD BANK SELECT in MANUAL.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Examiner Note:	The following steps represent the alternate path for this JPM.	
Perform Step: 5 ✓	Perform the following: <ul style="list-style-type: none"> • <u>IF</u> any of following occurs, <u>THEN</u> trip Reactor <u>AND</u> GO TO EOP-0.0A/B while other operators continue this procedure: <ul style="list-style-type: none"> • Rod motion with <u>NO</u> demand. • Rod withdrawal with rod insertion demand <u>AND</u> rod motion required. • Rods stationary with rod insertion required. • Rods moving in different direction simultaneously <u>AND</u> rod motion required. 	
Standard:	INITIATE a Reactor Trip by PLACING 1/1-RTC, RX TRIP Switch <u>and/or</u> 1/1-RT, RX TRIP Switch in TRIP position and DETERMINE Reactor is NOT tripped.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 6 ✓	Perform the following: <ul style="list-style-type: none"> • <u>IF</u> any of following occurs, <u>THEN</u> trip Reactor <u>AND</u> GO TO EOP-0.0A/B while other operators continue this procedure: <ul style="list-style-type: none"> • Rod motion with <u>NO</u> demand. 	
Standard:	OPEN then RECLOSE CS-1B3-1, INCOMING BREAKER 1B3-1 <u>and</u> CS-1B4-1, INCOMING BREAKER 1B4-1 and OBSERVE green TRIP lights upon TRIP and red CLOSE lights upon RECLOSE illuminated.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 7	Verify Reactor trip.	
Standard:	VERIFY Reactor Trip by OBSERVING: <ul style="list-style-type: none"> • 1-NI-35B, IR CURRENT CHAN I is lowering. • 1-NI-36B, IR CURRENT CHAN II is lowering. • 1-NI-35D, IR START-UP RATE is negative. • 1-NI-36D, IR START-UP RATE is negative. • All Control Rods INSERTED on CTRL ROD POSN (DRPI). 	
Terminating Cue:	This JPM is complete.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

STOP TIME:	
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INITIAL CONDITIONS: Unit 1 Reactor Startup is in progress per IPO-002A, Plant Startup from Hot Standby with Reactor power at 10^{-8} amps. Rod Control is in MANUAL.

INITIATING CUE: The Unit Supervisor directs you to RAISE power to 2% by Control Rod withdrawal per IPO-002A, Plant Startup from Hot Standby, Step 5.4.1.B.

Facility: CPNPP JPM # RO/SRO NRC S-2 Task # RO1307 K/A # 004.A2.13 3.6 / 3.9 SF-2
 Title: Perform Manual Makeup to the Refueling Water Storage Tank

Examinee (Print): _____

Testing Method:

Simulated Performance:	_____	Classroom:	_____
Actual Performance:	<u> X </u>	Simulator:	<u> X </u>
		Plant:	_____

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: Given the following conditions on Unit 1:

- Refueling Water Storage Tank (RWST) level is currently at 95% and preparations are being made to raise level.
- 8000 gallons of makeup at 2500 ppm boron is required.
- A Boric Acid flowrate of 25 gpm is desired.
- Boric Acid Tank concentration is 7447 ppm.
- All prerequisites have been met and a Tracking LCOAR has been initiated.
- An operator is standing by in the field.

Initiating Cue: The Unit Supervisor directs you to PERFORM a blended makeup of 8000 gallons to the Refueling Water Storage Tank per SOP-104A, Reactor Make-Up And Chemical Control System, Section 5.2.6, Makeup to RWST.

Task Standard: Locate and correctly perform Critical Steps of SOP-104A.

Required Materials: SOP-104A, Reactor Make-Up And Chemical Control System, Rev. 11, PCN-9

Validation Time: 15 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

SIMULATOR SETUP**BOOTH OPERATOR:**

INITIALIZE to IC-18 or any MODE 1 Initial Condition and then PERFORM the following:

- ENSURE VCT level is between 56% and 62% to begin JPM.
- When directed by examinee, EXECUTE remote function CVR03, Boric Acid Blender to RWST Isolation Valve [CS-8432, CS-8434] to OPEN.

PERFORM the following after each JPM:

- RESET potentiometer for 1-FK-110 to 3.88 .
- RESET potentiometer for 1-FK-111 to 7.50.
- RESET flow counter for 1-FY-110B to 500.
- RESET flow counter for 1-FY-111B to 35.

EXAMINER:

PROVIDE the examinee with a copy of:

- SOP-104A, Reactor Make-Up and Chemical Control System with Prerequisite Section 2.1 signed-off and all other Sections up to 5.2.6 marked as N/A.

√ - Check Mark Denotes Critical Step

START TIME:

Perform Step: 1	Ensure the VCT is at the top of its operating band (56-62%).
Standard:	VERIFY VCT level is between 56% and 62% by OBSERVING 1-LI-185, VCT LEVEL.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 2 √	Place 1/1-MU, RCS MU MAN ACT in STOP.
Standard:	PLACE 1/1-MU, RCS MU MAN ACT in STOP and OBSERVE green STOP light illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 3 √	Place 43/1-MU, RCS MU MODE SELECT in MAN.
Standard:	PLACE 43/1-MU, RCS MU MODE SELECT in MAN.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 4 √	Place 1/1-FCV-111B, RCS MU TO VCT ISOL VLV in CLOSE.
Standard:	PLACE 1/1-FCV-111B, RCS MU TO VCT ISOL VLV in CLOSE and OBSERVE green CLOSE light illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 5 √	Place 1/1-FCV-110B, RCS MU TO CHRG PMP SUCT ISOL VLV in CLOSE.
Standard:	PLACE 1/1-FCV-110B, RCS MU TO CHRG PMP SUCT ISOL VLV in CLOSE and OBSERVE green CLOSE light illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 6	IF NO RCPs are operating in Modes 3, 4 or 5 AND Steps 5.2.6D and E have been performed, THEN the dilution clearance may be removed from the following valve(s):
Standard:	DETERMINE that UNIT is in MODE 1 with RCPs running and this step is N/A.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 7	IF it is desired to fill the RWST directly from the BATs, THEN Close 1/1-FCV-111A, RMUW BLNDR FLO CTRL VLV AND go to Step 5.2.6.K.	
Standard:	DETERMINE that blended flow is required based on Unit Supervisor directive.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 8	Set 1-FK-110, BA BLNDR FLO CTRL to obtain a blended flow which will yield boron concentration of 2400 to 2600 ppm per TDM-201A and TDM-203A.	
Standard:	SET 1-FK-110, BA BLNDR FLO CTRL potentiometer to 6.25 (6.0 to 6.5) based on desired flow of 25 gpm using TDM-203A, Page 11 Figure for 1-FK-110, BA BLNDR FLO CTRL.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 9a	Set 1-FK-111, RMUW BLNDR FLO CTRL to obtain 127 gpm OR at the value determined by the following: $FT = \frac{Cb (BAT) \times Fb}{C}$ where: <ul style="list-style-type: none"> • FT = 1-FK-111 Total Flow (1-FR-110 Pen 2) • Fb = Boric Acid Flow (1-FR-110 Pen 1) • C = Desired Blend Concentration • Cb (BAT) = Current concentration of the in-service BAT 	
Standard:	CALCULATE a total flow of ~ 75 gpm based on 7447 ppm BAT concentration and a flowrate of 25 gpm for a 2500 ppm makeup.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 9b	Set 1-FK-111, RMUW BLNDR FLO CTRL to obtain 127 gpm OR at the value determined by the following: $FT = \frac{Cb (BAT) \times Fb}{C}$ where: <ul style="list-style-type: none"> • FT = 1-FK-111 Total Flow (1-FR-110 Pen 2) • Fb = Boric Acid Flow (1-FR-110 Pen 1) • C = Desired Blend Concentration • Cb (BAT) = Current concentration of the in-service BAT 	
Standard:	SET 1-FK-111, RMUW BLNDR FLO CTRL potentiometer to 4.65 (4.50 to 4.80) based on desired flow of ~ 75 gpm using TDM-203A, Page 12 Figure for 1-FK-111, RMUW BLNDR FLO CTRL.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 10 ✓	Set 1-FY-111B, RCS MU BATCH FLO at a value sufficient to complete the makeup operation.
Standard:	SET 1-FY-111B, RCS MU BATCH FLO at 8000 gallons.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 11	Set 1-FY-110B, BA BATCH FLO at a value sufficient to fill the RWST.
Standard:	SET 1-FY-110B, BA BATCH FLO at ~ 2685 gallons based on pumping at 25 gpm for ~107 minutes.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 12	Open 1CS-8432, U1 CVCS MU TO RWST/REHUT ISOL VLV.
Standard:	DIRECT PEO to OPEN 1-CS-8432, U1 CVCS MU TO RWST/REHUT ISOL VLV.
Booth Operator:	EXECUTE remote function CVR03, Boric Acid Blender to RWST Isolation Valve to OPEN and REPORT that 1-CS-8432 is OPEN.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 13	Open 1CS-8434, CVCS MU TO RWST 1-01 DNSTRM ISOL VLV.
Standard:	DIRECT PEO to OPEN 1-CS-8434, CVCS MU TO RWST 1-01 DNSTRM ISOL VLV.
Booth Operator:	EXECUTE remote function CVR03, Boric Acid Blender to RWST Isolation Valve to OPEN and REPORT that 1-CS-8434 is OPEN.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 14	Ensure Closed 1BR-8553, U1 CVCS BA BLEND TO BRS EVAP FD DEMIN IN HDR ISOL VLV.
Standard:	DIRECT PEO to ENSURE 1-BR-8553, U1 CVCS BA BLEND TO BRS EVAP FD DEMIN IN HDR ISOL VLV is CLOSED.
Booth Operator:	REPORT that 1-BR-8553 is CLOSED.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 15 ✓	Start makeup to the RWST by placing 1/1-MU, RCS MU MAN ACT in START.
Standard:	PLACE 1/1-MU, RCS MU MAN ACT in START. <ul style="list-style-type: none"> • OBSERVE red START light illuminated. • VERIFY 1-FR-110 red pen indicates approximately 25 gpm and green pen indicates approximately 75 gpm.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 16	Perform the following: <ul style="list-style-type: none"> • IF BA FLO TO BLNDR (1-FR-110, Red pen) is not at the required value, THEN adjust 1-FK-110, BA BLNDR FLO CTRL to obtain the required boric acid flow.
Standard:	If necessary, ADJUST potentiometer on 1-FK-110, BA BLNDR FLO CTRL to obtain required boric acid flow.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 17	Perform the following: <ul style="list-style-type: none"> • Notify Chemistry to obtain a sample of the blend.
Standard:	CONTACTS Chemistry to obtain a sample of the blend using Gaitronics.
Terminating Cue:	Chemistry has been notified. This JPM is complete.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

STOP TIME:	
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INITIAL CONDITIONS:

Given the following conditions on Unit 1:

- Refueling Water Storage Tank (RWST) level is currently at 95% and preparations are being made to raise level.
- 8000 gallons of makeup at 2500 ppm boron is required.
- A Boric Acid flowrate of 25 gpm is desired.
- Boric Acid Tank concentration is 7447 ppm.
- All prerequisites have been met and a Tracking LCOAR has been initiated.
- An operator is standing by in the field.

INITIATING CUE:

The Unit Supervisor directs you to PERFORM a blended makeup of 8000 gallons to the Refueling Water Storage Tank per SOP-104A, Reactor Make-Up And Chemical Control System, Section 5.2.6, Makeup to RWST.

Facility: CPNPP JPM # RO/SRO NRC S-3 Task # RO1222 K/A # 010.A2.02 3.9 / 3.9 SF-3
 Title: Respond to Pressurizer Spray Valve Failure

Examinee (Print): _____

Testing Method:

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

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: Unit 1 is in MODE 1 at 100% power. You are the Reactor Operator.

Initiating Cue: The Unit Supervisor directs you to RESPOND to any Primary System alarms.

Task Standard: Locate and correctly perform the critical steps of ABN-705.

Required Materials: ABN-705, Pressurizer Pressure Malfunction, Rev. 12, PCN-0
 ALM-0053A, 1-ALB-5C-3.3, PRZR PRESS LO BACKUP HTRS ON, Rev. 6, PCN-14

Validation Time: 5 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

SIMULATOR SETUP**BOOTH OPERATOR:**

INITIALIZE to IC-18 or any MODE 1 Initial Condition and then PERFORM the following:

- **ADJUST all RCP Seal Injection flows to ~ 10 gpm to preclude CHG FLO HI / LO alarm.**

When examinee has ASSUMED the watch:

- **INSERT malfunction RX15B, Pressurizer Spray Valve [PCV-455C] failure to 60%.**

EXAMINER:

PROVIDE the examinee with a copy of:

- **ABN-705, Pressurizer Pressure Malfunction, Section 3.0, Pressurizer Spray Valve Failure.**

√ - Check Mark Denotes Critical Step

START TIME:

Perform Step: 1	Respond to alarms.
Standard:	ACKNOWLEDGE and RESPOND to annunciator alarm 1- ALB-05C-3.3, PRZR PRESS LO BACKUP HTRS ON.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Examiner Note:	Step from 1-ALB-5C-3.3, PRZR PRESS LO BACKUP HTRS ON.
Perform Step: 2	Monitor pressurizer pressure. <ul style="list-style-type: none"> If one channel is indicating >60 psig difference between remaining operable channels, go to ABN-705.
Standard:	OBSERVE 1-PI-455A (456/457/458) PZRZ PRESS CHAN I (II/III/IV) and DETERMINE NO channel is indicating >60 psig difference between remaining operable channels and REFER to ABN-705.
Examiner Cue:	The Unit Supervisor directs you to perform actions of ABN-705, Pressurizer Pressure Malfunction.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 3 √	CLOSE Pressurizer Spray Valve(s). <ul style="list-style-type: none"> 1-PK-455C, RC LOOP 4 PRZR SPR VLV CTRL
Standard:	DEPRESS 1-PK-455C, RC LOOP 4 PRZR SPR VLV CTRL amber MANUAL pushbutton and green OUTPUT (▼) pushbutton to CLOSE valve and DETERMINE Loop 4 Pressurizer Spray Valve is OPEN.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 4	<u>IF</u> Pressurizer pressure is decreasing in an uncontrolled manner, <u>THEN</u> perform the following:
Standard:	DETERMINE Pressurizer pressure is decreasing in an uncontrolled manner by OBSERVING RCS pressure indications 1-PI-455A (456/457/458), PRZR PRESS CHAN I (II/III/IV) and/or 1-PR-455, PRZR PRESS.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Examiner Note:	The following steps represent the alternate path for this JPM.	
Perform Step: 5 ✓	IF Pressurizer pressure is decreasing in an uncontrolled manner, <u>THEN</u> perform the following: <ul style="list-style-type: none"> • Trip the Reactor. 	
Standard:	PLACE 1/1-RTC, RX TRIP Switch to the TRIP position. <ul style="list-style-type: none"> • VERIFY Reactor Trip Breakers OPEN by OBSERVING 1/1-RTBAL and 1/1-RTBBL Reactor Trip Breaker green OPEN lights illuminated. • OBSERVE all Control Rods inserted on DRPI Indication using CTRL ROD POSN. 	
Examiner Cue:	Another operator will perform immediate actions of EOP-0.0A, Reactor Trip or Safety Injection; CONTINUE with ABN-705 actions.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 6 ✓	IF Pressurizer pressure is decreasing in an uncontrolled manner, <u>THEN</u> perform the following: <ul style="list-style-type: none"> • STOP RCP(s) as necessary to stop spray flow. 	
Standard:	PLACE 1/1-PCPX4, RCP 4 to STOP and OBSERVE the green STOP light illuminated.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 7	IF Pressurizer pressure is decreasing in an uncontrolled manner, <u>THEN</u> perform the following: <ul style="list-style-type: none"> • GO TO EOP-0.0A/B. 	
Standard:	REFER to EOP-0.0A, Reactor Trip or Safety Injection.	
Terminating Cue:	This JPM is complete.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

STOP TIME:	
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INITIAL CONDITIONS: Unit 1 is in MODE 1 at 100% power. You are the Reactor Operator.

INITIATING CUE: The Unit Supervisor directs you to RESPOND to any Primary System alarms.

Facility: CPNPP JPM # RO/SRO NRC S-4 Task # RO1412 K/A # 005.A2.03 2.9 / 3.1 SF-4-P
 Title: Respond to a Shutdown Loss of Coolant

Examinee (Print): _____

Testing Method:

Simulated Performance:	_____	Classroom:	_____
Actual Performance:	<u> X </u>	Simulator:	<u> X </u>
		Plant:	_____

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: Unit 1 is in MODE 4 with the following conditions:

- Both Residual Heat Removal Trains are in service.
- A Loss of Coolant Accident has occurred.
- ABN-108, Shutdown Loss of Coolant is being implemented.

Initiating Cue: The Unit Supervisor directs you to PERFORM ABN-108, Shutdown Loss of Coolant, starting at Step 2.3.8, Check RCS Status.

Task Standard: Locate and correctly perform Critical Steps of ABN-108.

Required Materials: ABN-108, Shutdown Loss of Coolant, Rev. 4, PCN-1

Validation Time: 10 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

SIMULATOR SETUP**BOOTH OPERATOR:**

INITIALIZE to IC-25 or any MODE 4 Initial Condition and then PERFORM the following:

- **ENSURE Train A and Train B RHR Systems in service.**
- **START TREND GTGC MODE 4 for current plant condition.**
- **PERFORM the 1st seven actions of ABN-108:**
 - **START both CCPs.**
 - **SECURE RCPs 1 and 4.**
 - **ISOLATE Letdown (PK-131, HC-128, and HC-123 closed).**
 - **HANG red TAG on PDP.**
- **INSERT malfunction RC17A at 30,000 gpm to lower RCS level and allow Cold Calibrated PRZR level to lower to 80% then FREEZE the Simulator.**

When directed, PERFORM the following:

- **INSERT remote functions SIR01 for SI Pump 1-01 or SIR02 for SI Pump 1-02 as directed by the Reactor Operator.**

EXAMINER:

PROVIDE the examinee with a copy of:

- **ABN-108, Shutdown Loss of Coolant with initials as appropriate through Step 2.3.7.**

√ - Check Mark Denotes Critical Step

START TIME:

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Booth Operator:	When examinee is ready, PLACE Simulator in RUN.	
Perform Step: 1	Verify RCS Subcooling – GREATER THAN 25°F: <ul style="list-style-type: none"> • <u>u</u>-TI-3611-1, RCS SAT MARGIN • <u>u</u>-TI-3612-1, RCS SAT MARGIN 	
Standard:	DETERMINE RCS SAT MARGIN is > 25°F as read on 1-TI-3611-1 and 1-TI-3612-1, RCS SAT MARGIN.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	
Perform Step: 2	Verify Pressurizer Level – STABLE OR INCREASING.	
Standard:	DETERMINE Pressurizer Level LOWERING by OBSERVING 1-LI-462, PRZR LVL COLD CAL.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	
Booth Operator:	INSERT remote functions SIR01 for SI Pump 1-01 or SIR02 for SI Pump 1-02 as directed by the Reactor Operator.	
Perform Step: 3	Dispatch operators to rack in breakers to affected units non-operating CCP AND <u>ONE</u> safety injection pump.	
Standard:	DISPATCH operator to rack in breaker for one (1) Safety Injection Pump.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	
Perform Step: 4 √	Ensure 1/ <u>u</u> -8835, SI TO CL 1-4 INJ ISOL VLV, OPEN.	
Standard:	INSERT key to ON and PLACE 1/1-8835, SI TO CL 1-4 INJ ISOL VLV in OPEN and OBSERVE red OPEN light illuminated.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 5 ✓	Stop both RHR pumps: <ul style="list-style-type: none"> • 1/1-APRH1, RHRP 1
Standard:	PLACE 1/1-APRH1, RHRP 1, in STOP and OBSERVE the following: <ul style="list-style-type: none"> • Green PUMP and red FAN lights illuminated. • 1-PI-614, RHRP 1 DISCH PRESS lowers to ~30 psig. • 1-FI-618, RHR TO CL 1&2 INJ FLO lowers to 0 gpm.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 6 ✓	Stop both RHR pumps: <ul style="list-style-type: none"> • 1/1-APRH2, RHRP 2
Standard:	PLACE 1/1-APRH2, RHRP 2, in STOP and OBSERVE the following: <ul style="list-style-type: none"> • Green PUMP and red FAN lights illuminated. • 1-PI-615, RHRP 2 DISCH PRESS lowers to ~30 psig. • 1-FI-619, RHR TO CL 3&4 INJ FLO lowers to 0 gpm.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 7 ✓	Close 1/1-8701A, RHRP 1 HL RECIRC ISOL VLV AND 1/1-8702B, RHRP 2 HL RECIRC ISOL VLV.
Standard:	PLACE 1/1-8701A, RHRP 1 HL RECIRC ISOL VLV in CLOSE and OBSERVE green CLOSE light illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 8 ✓	Close 1/1-8701A, RHRP 1 HL RECIRC ISOL VLV AND 1/1-8702B, RHRP 2 HL RECIRC ISOL VLV.
Standard:	PLACE 1/1-8702B, RHRP 2 HL RECIRC ISOL VLV in CLOSE and OBSERVE green CLOSE light illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 9	Identify AND Isolate Leak per Attachment 7, while continuing this procedure.
Standard:	IDENTIFY and ISOLATE Leak per Attachment 7, RCS Leak Identification and Isolation.
Examiner Cue:	Another operator will perform Attachment 7, RCS Leak Identification and Isolation.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 10	GO TO Step 11.
Standard:	GO TO Step 11.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 11	Verify RWST level - GREATER THAN <u>33%</u> : <ul style="list-style-type: none"> • <u>1</u>-LI-932, RWST LVL CHAN III • <u>1</u>-LI-933, RWST LVL CHAN IV
Standard:	DETERMINE RWST level greater than 33% by OBSERVING 1-LI-932, RWST LVL CHAN III and 1-LI-933, RWST LVL CHAN IV.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 12	Verify at least one CCP-RUNNING.
Standard:	DETERMINE both Centrifugal Charging Pumps 1-01 and 1-02 are RUNNING.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 13	STOP 1/ <u>1</u> -APPD, PDP.
Standard:	VERIFY 1/ <u>1</u> -APPD, PDP is TAGGED OUT by OBSERVING green FAN light illuminated and PDP handswitch in STOP.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 14	Verify CCP suction aligned from RWST: <ul style="list-style-type: none"> 1/u-LCV-112D RWST TO CHRGR PMP SUCT VLV - OPEN
Standard:	VERIFY 1/1-LCV-112D RWST TO CHRGR PMP SUCT VLV in OPEN and OBSERVE red OPEN light illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 15	Verify CCP suction aligned from RWST: <ul style="list-style-type: none"> 1/u-LCV-112E RWST TO CHRGR PMP SUCT VLV - OPEN
Standard:	VERIFY 1/1-LCV-112E RWST TO CHRGR PMP SUCT VLV in OPEN and OBSERVE red OPEN light illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 16	Verify CCP suction aligned from RWST: <ul style="list-style-type: none"> 1/u-LCV-112B, VCT TO CHRGR PMP SUCT VLV - CLOSED
Standard:	VERIFY 1/1-LCV-112B, VCT TO CHRGR PMP SUCT VLV in CLOSE and OBSERVE green CLOSE light illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 17	Verify CCP suction aligned from RWST: <ul style="list-style-type: none"> 1/u-LCV-112C, VCT TO CHRGR PMP SUCT VLV - CLOSED
Standard:	VERIFY 1/1-LCV-112C, VCT TO CHRGR PMP SUCT VLV in CLOSE and OBSERVE green CLOSE light illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 18	Verify the following valves closed: <ul style="list-style-type: none"> • <u>u</u>-ZL-8220, CHRG PMP SUCT HI POINT VENT VLV – CLOSED • <u>u</u>-ZL-8221, CHRG PMP SUCT HI POINT VENT VLV – CLOSED • 1/<u>u</u>-8210A, H2/N2 SPLY VLV – CLOSED • 1/<u>u</u>-8210B, H2/N2 SPLY VLV – CLOSED • 1/<u>u</u>-8202A, VENT VLV – CLOSED • 1/<u>u</u>-8202B, VENT VLV – CLOSED
Standard:	Verify the following valves closed: <ul style="list-style-type: none"> • 1-ZL-8220, CHRG PMP SUCT HI POINT VENT VLV – CLOSED • 1-ZL-8221, CHRG PMP SUCT HI POINT VENT VLV – CLOSED • 1/1-8210A, H2/N2 SPLY VLV – CLOSED • 1/1-8210B, H2/N2 SPLY VLV – CLOSED • 1/1-8202A, VENT VLV – CLOSED • 1/1-8202B, VENT VLV – CLOSED
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 19 ✓	Align CCP injection: <ul style="list-style-type: none"> • 1/<u>u</u>-8801A, CCP SI ISOL VLV - OPEN
Standard:	PLACE 1/1-8801A, CCP SI ISOL VLV in OPEN and OBSERVE red OPEN light illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 20 ✓	Align CCP injection: <ul style="list-style-type: none"> • 1/<u>u</u>-8801B, CCP SI ISOL VLV - OPEN
Standard:	PLACE 1/1-8801B, CCP SI ISOL VLV in OPEN and OBSERVE red OPEN light illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 21	Verify ECCS flow: <ul style="list-style-type: none">• <u>1</u>-FI-917, CCP SI FLO
Standard:	OBSERVE flow indication on 1-FI-917, CCP SI FLO.
Terminating Cue:	This JPM is complete.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

STOP TIME:	
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INITIAL CONDITIONS:

Unit 1 is in MODE 4 with the following conditions:

- Both Residual Heat Removal Trains are in service.
- A Loss of Coolant Accident has occurred.
- ABN-108, Shutdown Loss of Coolant is being implemented.

INITIATING CUE:

The Unit Supervisor directs you to PERFORM ABN-108, Shutdown Loss of Coolant, starting at Step 2.3.8, Check RCS Status.

Facility: CPNPP JPM # RO/SRO NRC S-5 Task # RO2008 K/A # 026.A4.01 4.5/ 4.3 SF-5
 Title: Operate Containment Spray System with Inadvertent Spray Flow Actuation

Examinee (Print): _____

Testing Method:

Simulated Performance: _____

Classroom: _____

Actual Performance: X

Simulator: X

Plant: _____

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: Unit 1 is operating at 100% power with the following conditions:

- All control systems are in AUTOMATIC.
- Cold weather has caused the Refueling Water Storage Tank temperature to drop to 45°F.
- The Containment Spray System is in Standby per SOP-204A, Containment Spray System, Section 5.1.1, Placing the System in a Standby Condition.
- The Crew Briefing is completed and an operator is standing by.
- Plant Computer System Trends have been initiated.

Initiating Cue: The Unit Supervisor directs you to PERFORM SOP-204A, Containment Spray System, Section 5.1.3, Recirculation Through the Recirculation Header, using Train A Containment Spray Pumps and raise Refueling Water Storage Tank temperature to 80°F.

Task Standard: Locate and correctly perform Critical Steps of SOP-204A and 1-ALB-2B.

Required Materials: SOP-204A, Containment Spray System, Rev. 14, PCN-3
 ALM-0022A, 1-ALB-2B-3.5, CS HX 1 OUT VLV NOT CLOSE HV-4776 Rev. 9, PCN-7

Validation Time: 8 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

SIMULATOR SETUP**BOOTH OPERATOR:**

INITIALIZE to IC-18 or any 100% power Initial Condition and then PERFORM the following:

- START TREND GTGC S67 for Containment Spray Pump parameters.
- OVERRIDE [AOCS TI4793] RWST temperature (TI-4793) to 45°F.
- OVERRIDE [AN2B 28] 1-ALB-2B-4.7, RWST TEMP LO alarm ON.

After the RWST is on recirculation:

- OVERRIDE switch for 1-HS-4776, Containment Spray Heat Exchanger #1 Outlet Valve to OPEN.

PERFORM the following after each JPM:

- ENSURE 1-ALB-2B-3.5, CS HX 1 OUT VLV NOT CLOSE HV-4776 procedure book is CLEAN.

EXAMINER:

PROVIDE the examinee with a copy of:

- SOP-204A, Containment Spray System, Section 5.1.3, Recirculation Through the Recirculation Header and N/A Train B Steps of Section 5.1.3.

√ - Check Mark Denotes Critical Step

START TIME:

Perform Step: 1	Verify the selected Train Chemical Additive Tank discharge valve is closed. <ul style="list-style-type: none"> 1-HS-4754, CHEM ADD TK DISCH VLV, Train A
Standard:	VERIFY 1-HS-4754, CHEM ADD TK DISCH VLV in CLOSE by OBSERVING green CLOSE light illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 2	Initiate a trend of the selected pump's parameters on the Plant Computer.
Standard:	DETERMINE that Containment Spray Pump TREND available.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 3	Verify the CS Pump recirculation valve is open. <ul style="list-style-type: none"> 1-HS-4772-1, CSP 1 RECIRC VLV
Standard:	VERIFY 1-HS-4772-1, CSP 1 RECIRC VLV in OPEN by OBSERVING red OPEN light illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 4	Verify the CS Pump recirculation valve is open. <ul style="list-style-type: none"> 1-HS-4772-2, CSP 3 RECIRC VLV
Standard:	VERIFY 1-HS-4772-2, CSP 3 RECIRC VLV in OPEN by OBSERVING red OPEN light illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Examiner Note:	Pumps may be started in any sequence.
Perform Step: 5 √	Start the selected spray pump(s). <ul style="list-style-type: none"> Train A 1-HS-4764, CSP 1
Standard:	PLACE 1-HS-4764, CSP 1, in START and OBSERVE red PUMP and FAN lights illuminated and 1-PI-4774-1, CSP 1 DISCH PRESS ~300 psig.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 6 ✓	Start the selected spray pump(s). <ul style="list-style-type: none"> • Train A 1-HS-4765, CSP 3
Standard:	PLACE 1-HS-4765, CSP 3, in START and OBSERVE red PUMP and FAN lights illuminated and 1-PI-4774-2, CSP 3 DISCH PRESS ~300 psig.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Booth Operator:	OVERRIDE switch for 1-HS-4776, Containment Spray Heat Exchanger #1 Outlet Valve to OPEN.
Perform Step: 7	Acknowledge and respond to alarms.
Standard:	ACKNOWLEDGE alarms and REFERENCE 1-ALB-2B-3.5, CS HX 1 OUT VLV NOT CLOSE HV-4776 alarm response.
Examiner Cue:	The Unit Supervisor directs you to respond to the alarm.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Examiner Note:	The following steps represent the alternate path for this JPM.
Perform Step: 8	Monitor Containment Spray discharge flow. <ul style="list-style-type: none"> • 1-FI-4772-1, CSP 1 DISCH FLO • 1-FI-4772-2, CSP 3 DISCH FLO
Standard:	OBSERVE Containment Spray flow indications 1-FI-4772-1, CSP 1 DISCH FLO and 1-FI-4772-2, CSP 3 DISCH FLO and DETERMINE Containment Spray flow into Containment.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 9 ✓	Ensure Containment Spray Pumps are stopped. <ul style="list-style-type: none"> • 1-HS-4764, CSP 1 • 1-HS-4765, CSP 3
Standard:	PLACE 1-HS-4764, CSP 1 <u>and</u> 1-HS-4765, CSP 2 in STOP and OBSERVE green PUMP light illuminated and Containment Spray flow indications 1-FI-4772-1, CSP 1 DISCH FLO and 1-FI-4772-2, CSP 3 DISCH FLO to zero (0) flow.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 10 ✓	Ensure 1-HS-4776, CS HX 1 OUT VLV is closed.
Standard:	PLACE 1-HS-4776, CS HX 1 OUT VLV in CLOSE and OBSERVE green CLOSE and red OPEN lights illuminated due to valve cycling OPEN and DETERMINE that valve will NOT CLOSE.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 11	Ensure 1-HS-4776, CS HX 1 OUT VLV is closed. <ul style="list-style-type: none"> If the valve will NOT close, dispatch a PEO to manually close 1-HV-4776 (Sfgd 810' South Penetration Room).
Standard:	DIRECT PEO to manually close 1-HV-4776 located in Safeguards Building 810' South Penetration Room.
Terminating Cue:	The valve is being closed. This JPM is complete.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

STOP TIME:	
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INITIAL CONDITIONS: Unit 1 is operating at 100% power with the following conditions:

- All control systems are in AUTOMATIC.
- Cold weather has caused the Refueling Water Storage Tank temperature to drop to 45°F.
- The Containment Spray System is in Standby per SOP-204A, Containment Spray System, Section 5.1.1, Placing the System in a Standby Condition.
- The Crew Briefing is completed and an operator is standing by.
- Plant Computer System Trends have been initiated.

INITIATING CUE:

The Unit Supervisor directs you to PERFORM SOP-204A, Containment Spray System, Section 5.1.3, Recirculation Through the Recirculation Header, using Train A Containment Spray Pumps and raise Refueling Water Storage Tank temperature to 80°F.

Facility: CPNPP JPM # RO/SRO NRC S-6 Task # RO4204 K/A # 062.A2.16 2.5 / 2.9 SF-6

Title: Transfer Safeguards Bus Power From Transformer XST2 to XST1

Examinee (Print): _____

Testing Method:

Simulated Performance:	_____	Classroom:	_____
Actual Performance:	<u> X </u>	Simulator:	<u> X </u>
		Plant:	_____

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: Given the following conditions:

- Unit 1 is in MODE 1 with all controls in AUTOMATIC.
- The 6900 V Safeguards Buses have been scheduled for Glen Rose Transmission maintenance.
- All Prerequisites have been met for transferring the 6900 V Safeguard Buses to Transformer XST1.

Initiating Cue: The Unit Supervisor directs you to TRANSFER the 6900 V Safeguard Buses to Transformer XST1 per SOP-603A, 6900 V Switchgear, Step 5.3.3.C, Transferring a 6.9 kV Safeguards Bus from Startup Transformer XST2 to Startup Transformer XST1.

Task Standard: Locate and correctly perform the Critical Steps of SOP-603A.

Required Materials: SOP-603A, 6900 V Switchgear, Rev. 14, PCN-5

Validation Time: 5 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

SIMULATOR SETUP**BOOTH OPERATOR:**

INITIALIZE to IC-18 or any Mode 1 Initial Condition.

PERFORM the following after each JPM:

- **TRANSFER Sync Switch to SS-1EG1, BKR 1EG1 SYNCHROSCOPE position.**

EXAMINER:

PROVIDE the examinee with a copy of:

- **SOP-603A, 6900 V Switchgear with Section 2.3 signed and Step 5.3.3.A signed with Step 5.3.3.B marked as not applicable.**

√ - Check Mark Denotes Critical Step

START TIME:

Perform Step: 1 √	Turn synchroscope ON for the selected Bus Feeder Breaker <u>AND</u> ensure proper phasing and frequency. <ul style="list-style-type: none"> SS-1EA1-2, BKR 1EA1-2 SYNCHROSCOPE
Standard:	SELECT SS-1EA1-2, BKR 1EA1-2 SYNCHROSCOPE to ON and OBSERVE synchroscope to be stationary at ~ 12 o'clock position.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 2 √	Close the selected Bus Feeder Breaker from the Startup Transformer XST1. <ul style="list-style-type: none"> CS-1EA1-2, INCOMING BKR 1EA1-2
Standard:	PLACE CS-1EA1-2, INCOMING BKR 1EA1-2 in CLOSE and OBSERVE red CLOSE light illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 3	Ensure the Bus Feeder Breaker from Startup Transformer XST2 to the bus being transferred trips open. <ul style="list-style-type: none"> CS-1EA1-1, INCOMING BKR 1EA1-1
Standard:	VERIFY CS-1EA1-1, INCOMING BKR 1EA1-1 in OPEN and OBSERVE green TRIP and amber MISMATCH lights illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Examiner Note:	JPM Steps 4 and 5 will be performed three times.
Perform Step: 4	Position applicable switch to check phase voltage: <ul style="list-style-type: none"> VS-1EA1-1, BUS 1EA1 VOLT SELECT
Standard:	SELECT VS-1EA1-1, BUS 1EA1 VOLT SELECT to PHASE AB / PHASE BC / PHASE CA.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 5	Verify approximately 6900 VOLTS on the applicable indication (6480-7150 volts required). <ul style="list-style-type: none"> V-1EA1-1, BUS 1EA1 VOLT
Standard:	OBSERVE voltage on V-1EA1-1, BUS 1EA1 VOLT is between 6480 and 7150 volts for PHASE AB then PHASE BC then PHASE CA.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 6 ✓	Match handswitch target by placing the selected breaker, for the bus transferred, in NEUTRAL-AFTER-TRIP. <ul style="list-style-type: none"> CS-1EA1-1, INCOMING BKR 1EA1-1
Standard:	PLACE CS-1EA1-1, INCOMING BKR 1EA1-1 momentarily in TRIP position then spring return to NEUTRAL and OBSERVE green TRIP light illuminated and amber MISMATCH light extinguished.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 7	Turn synchroscope OFF for the selected breaker. <ul style="list-style-type: none"> SS-1EA1-2, BKR 1EA1-2 SYNCHROSCOPE
Standard:	PLACE SS-1EA1-2, BKR 1EA1-2 SYNCHROSCOPE in OFF.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 8 ✓	Turn synchroscope ON for the selected Bus Feeder Breaker AND ensure proper phasing and frequency. <ul style="list-style-type: none"> SS-1EA2-2, BKR 1EA2-2 SYNCHROSCOPE
Standard:	SELECT SS-1EA2-2, BKR 1EA2-2 SYNCHROSCOPE to ON and OBSERVE synchroscope to be stationary at ~ 12 o'clock position.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 9 ✓	Close the selected Bus Feeder Breaker from the Startup Transformer XST1. <ul style="list-style-type: none"> CS-1EA2-2, INCOMING BKR 1EA2-2
Standard:	PLACE CS-1EA2-2, INCOMING BKR 1EA2-2 in CLOSE position and OBSERVE red CLOSE light illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 10 ✓	Ensure the Bus Feeder Breaker from Startup Transformer XST2 to the bus being transferred trips open. <ul style="list-style-type: none"> CS-1EA2-1, INCOMING BKR 1EA2-1
Standard:	OBSERVE CS-1EA2-1, INCOMING BKR 1EA2-1 in TRIP and OBSERVE green TRIP and amber MISMATCH lights illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Examiner Note:	JPM Steps 11 and 12 will be performed three times.	
Perform Step: 11	Position applicable switch to check phase voltage: <ul style="list-style-type: none"> • VS-1EA2-1, BUS 1EA2 VOLT SELECT 	
Standard:	SELECT VS-1EA2-1, BUS 1EA2 VOLT SELECT to PHASE AB / PHASE BC / PHASE CA.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 12	Verify approximately 6900 VOLTS on the applicable indication (6480-7150 volts required). <ul style="list-style-type: none"> • V-1EA2-1, BUS 1EA2 VOLT 	
Standard:	OBSERVE voltage on V-1EA2-1, BUS 1EA2 VOLT is between 6480 and 7150 volts for PHASE AB then PHASE BC then PHASE CA.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 13 ✓	Match handswitch target by placing the selected breaker, for the bus transferred, in NEUTRAL-AFTER-TRIP. <ul style="list-style-type: none"> • CS-1EA1-1, INCOMING BKR 1EA1-1 	
Standard:	PLACE CS-1EA2-1, INCOMING BKR 1EA2-1 momentarily in TRIP position then spring return to NEUTRAL and OBSERVE green TRIP light illuminated and amber MISMATCH light extinguished.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 14	Turn synchroscope OFF for the selected breaker. <ul style="list-style-type: none"> • SS-1EA2-2, BKR 1EA2-2 SYNCHROSCOPE 	
Standard:	PLACE SS-1EA2-2, BKR 1EA2-2 SYNCHROSCOPE in OFF.	
Terminating Cue:	This JPM is complete.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

STOP TIME:	
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INITIAL CONDITIONS:

Given the following conditions:

- Unit 1 is in MODE 1 with all controls in AUTOMATIC.
- The 6900 V Safeguards Buses have been scheduled for Glen Rose Transmission maintenance.
- All Prerequisites have been met for transferring the 6900 V Safeguard Buses to Transformer XST1.

INITIATING CUE:

The Unit Supervisor directs you to TRANSFER the 6900 V Safeguard Buses to Transformer XST1 per SOP-603A, 6900 V Switchgear, Step 5.3.3.C, Transferring a 6.9 kV Safeguards Bus from Startup Transformer XST2 to Startup Transformer XST1.

Facility: CPNPP JPM # RO/SRO NRC S-7 Task # RO1827 K/A # 016.A2.01 3.0 / 3.1 SF-7
 Title: Respond to Turbine Impulse Pressure Instrument Malfunction

Examinee (Print): _____

Testing Method:

Simulated Performance:	_____	Classroom:	_____
Actual Performance:	<u> X </u>	Simulator:	<u> X </u>
		Plant:	_____

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: Unit 1 is in MODE 1 at 100% power. You are the Reactor Operator.

Initiating Cue: The Unit Supervisor directs you to RESPOND to any alarms.

Task Standard: Locate and correctly perform Critical Steps of ABN-709 and PLR 2007-0165.

Required Materials: ABN-709, Steam Line, Steam Header, Turbine 1st Stage Pressure, and Feed Header Pressure Instrument Malfunction, Rev. 8, PCN-0
 PLR 2007-0165, Transferring the Steam Dump System to the Steam Pressure Mode

Validation Time: 10 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

SIMULATOR SETUP**BOOTH OPERATOR:**

INITIALIZE to IC-18 or any 100% power Initial Condition and then PERFORM the following:

- INSERT malfunction RX09A, Main Turbine 1st Stage Pressure Transmitter failure [PT-505A] to 0%.
- ENSURE Rod Control is in AUTO.

PERFORM the following after each JPM:

- ENSURE PLR 2007-0165, Transferring the Steam Dump System to the Steam Pressure Mode Job Aid for the Steam Dump System is CLEAN.
- ENSURE 1-ALB-6D-1.10, AVE Tave Tref DEV procedure book is CLEAN.

EXAMINER:

PROVIDE the examinee with a copy of:

- ABN-709, Steam Line, Steam Header, Turbine 1st Stage Pressure, and Feed Header Pressure Instrument Malfunction.
- PLR 2007-0165, Transferring the Steam Dump System to the Steam Pressure Mode.

√ - Check Mark Denotes Critical Step

START TIME:

Booth Operator:	INSERT malfunction RX09A, Main Turbine 1st Stage Pressure Transmitter failure [PT-505A] to 0%.	
Perform Step: 1	RESPOND to Annunciator alarm.	
Standard:	ACKNOWLEDGE and RESPOND to Annunciator alarm 1-ALB-6D-1.10, AVE Tave Tref DEV.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Examiner Note:	Step from 1-ALB-6D-1.10, AVE Tave Tref DEV.	
Perform Step: 2	Stop all secondary system power changes and allow the primary and secondary to stabilize, if possible.	
Standard:	DETERMINE NO secondary system power changes are in progress.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Examiner Note:	Step from 1-ALB-6D-1.10, AVE Tave Tref DEV.	
Perform Step: 3	Verify RCS temperature is >551°F: <ul style="list-style-type: none"> • 1-TI-412, RC LOOP 1 TAVE CHAN I • 1-TI-422, RC LOOP 2 TAVE CHAN II • 1-TI-432, RC LOOP 3 TAVE CHAN III • 1-TI-442, RC LOOP 4 TAVE CHAN IV 	
Standard:	DETERMINE RCS temperature is >551°F: <ul style="list-style-type: none"> • 1-TI-412, RC LOOP 1 TAVE CHAN I • 1-TI-422, RC LOOP 2 TAVE CHAN II • 1-TI-432, RC LOOP 3 TAVE CHAN III • 1-TI-442, RC LOOP 4 TAVE CHAN IV 	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Examiner Note:	Step from 1-ALB-6D-1.10, AVE Tave Tref DEV.	
Perform Step: 4	Monitor turbine impulse chamber pressure. <ul style="list-style-type: none"> • 1-PI-505, TURB IMP PRESS CHAN I • 1-PI-506, TURB IMP PRESS CHAN II If pressure indicates >3% difference between channels, refer to ABN-709.	
Standard:	DETERMINE Turbine Impulse Chamber Pressure indicates >3% difference between channels and REFER to ABN-709.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Examiner Note:	The following steps are from ABN-709.	
Perform Step: 5 ✓	Place 1/1-RBSS, CONTROL ROD BANK SELECT Switch in – MANUAL.	
Standard:	PLACE 1/1-RBSS, CONTROL ROD BANK SELECT Switch in MANUAL and OBSERVE rod motion stops.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 6	Verify Steam Dumps - CLOSED WITH NO OPEN DEMAND.	
Standard:	DETERMINE Steam Dumps CLOSED via STM DMP TRIP GRP 1 and GRP 2 green lights on all 12 Steam Dump Valves, however, OBSERVE 1-UI-500, STM DMP DEMAND indicating 100% DEMAND.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Examiner Note:	The following step represents the alternate path for this JPM.	
Perform Step: 7 ✓	IF steam dump operation <u>NOT</u> required, <u>THEN</u> place at least one steam dump interlock select switch - OFF: <ul style="list-style-type: none"> • 43/1-SDA, STM DMP INTLK SELECT • 43/1-SDB, STM DMP INTLK SELECT 	
Standard:	PLACE 43/1-SDA, STM DMP INTLK SELECT <u>or</u> 43/1-SDB, STM DMP INTLK SELECT in OFF position and OBSERVE Steam Dump Valves CLOSED.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Examiner Cue:	The Unit Supervisor directs you to refer to the Job Aid for Transferring the Steam Dump System to the Steam Pressure Mode.	
Perform Step: 8	Restore steam dump availability <ul style="list-style-type: none"> • Place Steam Dumps in STM PRESS Mode. • Ensure steam dump selector switches – ON 	
Standard:	REFER to the Job Aid, Transferring the Steam Dump System to the STEAM PRESSURE Mode.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	
Perform Step: 9	Ensure 1-PK-507, STM DMP PRESS CTRL is in MANUAL.	
Standard:	VERIFY 1-PK-507, STM DMP PRESS CTRL in MANUAL and OBSERVE amber MANUAL light illuminated.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	
Perform Step: 10	Match 1-PK-507, STM DMP PRESS CTRL demand to 1-UI-500, STM DMP DEMAND.	
Standard:	DETERMINE matching of 1-PK-507, STM DMP PRESS CTRL to 1-UI-500, STM DMP DEMAND is NOT desired.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	
Perform Step: 11	Verify 1-PCIP, 1.4, CNDSR AVAIL STM DMP ARMED C-9, is ON.	
Standard:	OBSERVE 1-PCIP-1.4, CNDSR AVAIL STM DMP ARMED C-9 window illuminated.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	
Perform Step: 12 ✓	Ensure BOTH STM DMP INTLK SELECT switches are ON.	
Standard:	PLACE 43/1-SDA, STM DMP INTLK SELECT <u>and</u> 43/1-SDB, STM DMP INTLK SELECT in ON position.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 13 ✓	Place 43/1-SD, STM DMP MODE SELECT in STM PRESS and verify proper response of steam dump valves.
Standard:	PLACE 43/1-SD, STM DMP MODE SELECT in STM PRESS position and VERIFY Steam Dump Valves remain CLOSED by OBSERVING STM DMP TRIP GRP 1 and GRP 2 green lights on all 12 Steam Dump Valves and 1-UI-500, STM DMP DEMAND to 0%.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 14	Ensure 1-PK-507, STM DMP PRESS CTRL set to 6.86.
Standard:	VERIFY potentiometer on 1-PK-507, STM DMP PRESS CTRL set to 6.86.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 15 ✓	Place 1-PK-507, STM DMP PRESS CTRL in AUTO.
Standard:	DEPRESS the white pushbutton on 1-PK-507, STM DMP PRESS CTRL and OBSERVE white AUTO light illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Examiner Note:	Main Steam header pressure value listed is for Hot Zero Power.
Perform Step: 16	Verify 1-PI-507, MS HDR PRESS is approximately 1092 psig.
Standard:	DETERMINE 1-PI-507, MS HDR PRESS at approximately 950 psig and appropriate for 100% power.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Examiner Note:	The examinee should refer to ABN-709 to complete restoration.
Perform Step: 17 ✓	Transfer <u>u</u> -PS-505Z, TURB IMP PRESS CHAN SELECT to operable channel.
Standard:	Transfer 1-PS-505Z, TURB IMP PRESS CHAN SELECT to Channel PS-506 and ACKNOWLEDGE alarm 1-ALB-6D-2.9, TURB IMP PRESS CHAN OUT OF SERV.
Terminating Cue:	This JPM is complete.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

STOP TIME:	
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INITIAL CONDITIONS: Unit 1 is in MODE 1 at 100% power. You are the Reactor Operator.

INITIATING CUE: The Unit Supervisor directs you to RESPOND to any alarms.

Facility: CPNPP JPM # RO/SRO NRC S-8 Task # RO4004 K/A # 029.A3.01 3.8 / 4.0 SF-8
 Title: Monitor the Containment Purge System

Examinee (Print): _____

Testing Method:

Simulated Performance:	_____	Classroom:	_____
Actual Performance:	<u> X </u>	Simulator:	<u> X </u>
		Plant:	_____

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: Unit 1 is in MODE 5. A Containment Purge is in progress. A Release Permit has been issued.

Initiating Cue: The Unit Supervisor directs you to MONITOR the Containment Purge per SOP-801A, Containment Ventilation System, Section 5.6.1, Containment Purge and Exhaust System Startup.

Task Standard: Locate and correctly perform Critical Steps of SOP-801A and ALM-0032A.

Required Materials: SOP-801A, Containment Ventilation System, Rev. 13, PCN-1
 ALM-0032A, 1-ALB-3B-4.1, CNTMT AIR RAD HI, Rev. 7, PCN-8
 ABN-902, Release of Radioactive/Toxic Gas, Rev. 6, PCN-1

Validation Time: 4 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

SIMULATOR SETUP**BOOTH OPERATOR:**

INITIALIZE to IC-4 or any MODE 5 Initial Condition and then PERFORM the following:

- INSERT remote function CHR17, Containment Purge Supply and Exhaust Isolation Damper Fuses for HV-5536/5537/5538/5539 - INSTALL.
- INSERT OVERRIDES to OPEN:
 - 1-HS-5538, AIR PRG EXH ISOL DMPR.
 - 1-HS-5539, AIR PRG EXH ISOL DMPR.
 - 1-HS-5537, AIR PRG SPLY ISOL DMPR.
 - 1-HS-5536, AIR PRG SPLY ISOL DMPR.
- When Containment Dampers are fully OPEN, then REMOVE OVERRIDES.
- INSERT remote function RMR02, RM-80 Actuations – OFF.
- ENSURE PC-11 is RESET and CAG-197 is GREEN.

When directed by the Examiner, PERFORM the following:

- INSERT malfunction RM03B3, PRM Radiation Monitor Failure 1-RE-5503 / CAG-197 @ $1E^6$ and INSERT remote function AN3B_4 to place ALB-03B-4.1, CNTMT AIR RAD HI - ALARM ON.

PERFORM the following after each JPM:

- ENSURE PC-11 is RESET and CAG-197 is GREEN.
- ENSURE 1-ALB-3B-4.1, CNTMT AIR RAD HI procedure book is CLEAN.
- INSERT remote function RMR11 to ON to clear RM-80 file.

EXAMINER:

PROVIDE the examinee with a copy of:

- SOP-801A, Containment Ventilation System Section 5.6.1 with initials and N/As as appropriate through Step 5.6.1.M and Section 5.6.4 with initials and N/As as appropriate through Step 5.6.4.A.
- ABN-902, Release of Radioactive/Toxic Gas.

√ - Check Mark Denotes Critical Step

START TIME:

Booth Operator:	When examinee has reviewed system alignment, EXECUTE malfunction RM03B3, PRM Radiation Monitor Failure 1-RE-5503 / CAG-197 @ 1E⁶ and INSERT remote function AN3B_4 to place ALB-03B-4.1, CNTMT AIR RAD HI alarm to ON.
Perform Step: 1	RESPOND to Annunciator alarm.
Standard:	ACKNOWLEDGE and RESPOND to Annunciator alarm 1-ALB-3B-4.1, CNTMT AIR RAD HI.
Examiner Cue:	Acknowledge and respond to any annunciator alarms.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Examiner Note:	Due to the ESFAS automatic actions associated with this alarm, the examinee may immediately isolate the Containment Purge Valves.
Examiner Note:	Step from 1-ALB-3B-4.1, CNTMT AIR RAD HI
Perform Step: 2	Verify the alarm on PC-11. <ul style="list-style-type: none"> • CAG-197, GASEOUS
Standard:	At PC-11, DEPRESS F7 then 197 then ENTER and OBSERVE high radiation on 1-RE-5503, CNTMT AIR PIG GAS, CAG-197.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Examiner Note:	Step from 1-ALB-3B-4.1, CNTMT AIR RAD HI
Perform Step: 3	Verify Containment Ventilation Isolation has occurred. (1-CB-02) <ul style="list-style-type: none"> • 1-MLB-45A, SI/CNTMT VENT ISOL • 1-MLB-45B, SI/CNTMT VENT ISOL
Standard:	DETERMINE Containment Ventilation Isolation has NOT occurred on 1-MLB-45A, SI/CNTMT VENT ISOL or 1-MLB-45B, SI/CNTMT VENT ISOL by OBSERVING 1-HV-5536, 1-HV-5537, 1-HV-5538, and 1-HV-5539 green lights DARK and green lights for remaining CVI valves illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Examiner Note:	The following steps represent the alternate path for this JPM.
Examiner Note:	The examinee can reference SOP-801A, ABN-902, or 1-ALB-03B-4.1 to perform Containment Purge Isolation actions.
Perform Step: 4	If Containment Purge Isolation is NOT complete, manually align components as necessary.
Standard:	PLACE Containment Purge Supply and Exhaust Isolation Valve switches in CLOSE. <ul style="list-style-type: none"> • 1-HS-5538, AIR PRG EXH ISOL DMPR. • 1-HS-5539, AIR PRG EXH ISOL DMPR. • 1-HS-5537, AIR PRG SPLY ISOL DMPR. • 1-HS-5536, AIR PRG SPLY ISOL DMPR.
Examiner Note:	If referenced, PROVIDE examinee with copy of ABN-902, Release of Radioactive / Toxic Gas.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Examiner Note:	The next four steps from ABN-902 can be performed in any order.
Perform Step: 5 ✓	Verify dampers closed, manually close dampers as necessary. <ul style="list-style-type: none"> • CB-03 1-HS-5538, AIR PRG EXH ISOL DMPR ORC
Standard:	PLACE 1-HS-5538, AIR PRG EXH ISOL DMPR handswitch in CLOSE and OBSERVE green CLOSE light illuminated <u>and/or</u> the green light on 1-MLB-45B illuminated.
Comment	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 6 ✓	Verify dampers closed, manually close dampers as necessary. <ul style="list-style-type: none"> • CB-03 1-HS-5539, AIR PRG EXH ISOL DMPR IRC
Standard:	PLACE 1-HS-5539, AIR PRG EXH ISOL DMPR handswitch in CLOSE and OBSERVE green CLOSE light illuminated <u>and/or</u> the green light on 1-MLB-45A illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 7 ✓	Verify dampers closed, manually close dampers as necessary. <ul style="list-style-type: none"> • CB-03 1-HS-5537, AIR PRG SPLY ISOL DMPR IRC
Standard:	PLACE 1-HS-5537, AIR PRG SPLY ISOL DMPR handswitch in CLOSE and OBSERVE green CLOSE light illuminated <u>and/or</u> the green light on 1-MLB-45A illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 8 ✓	Verify dampers closed, manually close dampers as necessary. <ul style="list-style-type: none"> • CB-03 1-HS-5536, AIR PRG SPLY ISOL DMPR ORC
Standard:	PLACE 1-HS-5536, AIR PRG SPLY ISOL DMPR handswitch in CLOSE and OBSERVE green CLOSE light illuminated <u>and/or</u> the green light on 1-MLB-45B illuminated.
Terminating Cue:	This JPM is complete.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

STOP TIME:	
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INITIAL CONDITIONS: Unit 1 is in MODE 5. A Containment Purge is in progress. A Release Permit has been issued.

INITIATING CUE: The Unit Supervisor directs you to MONITOR the Containment Purge per SOP-801A, Containment Ventilation System, Section 5.6.1, Containment Purge and Exhaust System Startup.

Facility: CPNPP JPM # RO/SRO NRC P-1 Task # AO4204 K/A # 062.A3.04 2.7 / 2.9 SF-6
 Title: Energize a Protection System Inverter

Examinee (Print): _____

Testing Method:

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

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: Given the following conditions on Unit 1 (Unit 2):

- uPC4 Protection Bus is aligned to its Alternate Power Source uEC4 via uPC4/00/BKR-2.
- Inverter IVuPC4 has been turned over to Operations to place in service on the uPC4 Protection Bus.
- SOP-607A/B, 118 VAC Distribution System and Inverters, Section 5.8.1, Energizing IVuPC4 and Distribution Panel uPC4 is complete through Step B.
- All power supplies to the Inverter are off.

Initiating Cue: The Unit Supervisor directs you to ALIGN the Unit 1 (Unit 2) Inverter IVuPC4 to supply the uPC4 Bus.

Task Standard: Locate and correctly perform Critical Steps of SOP-607A/B.

Required Materials: SOP-607A, 118 VAC Distribution System and Inverters, Rev. 22, PCN-8
 SOP-607B, 118 VAC Distribution System and Inverters, Rev. 15, PCN-4

Validation Time: 16 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

PLANT SETUP**EXAMINER:**

PROVIDE the examinee with a copy of:

- **SOP-607A, 118 VAC Distribution System and Inverters with initials and N/As as appropriate up through Step 5.8.1.B for Unit 1.**
- **SOP-607B, 118 VAC Distribution System and Inverters with initials and N/As as appropriate up through Step 5.8.1.B for Unit 2.**

This JPM can be performed on either Unit. CIRCLE the Unit on which the JPM is to be performed on the JPM Worksheet and the JPM Cue Sheet.

NOTE: This JPM has been modified to reflect Unit 1 or Unit 2 designations (as identified in the Perform Step and Standard) by replacing them with a u where appropriate.

√ - Check Mark Denotes Critical Step

START TIME:

Examiner Cue:	Remind examinee to simulate all steps of this JPM.
Perform Step: 1	Ensure <u>EC4/8/BKR</u> , IV <u>PC4</u> BYP SOURCE is ON.
Standard:	VERIFY <u>EC4/8/BKR</u> , IV <u>PC4</u> BYP SOURCE is ON.
Examiner Cue:	The Breaker is ON.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 2	Verify <u>ED4/1-1/DSW</u> , 125 V DC STATION BATTERY BT <u>ED4</u> FUSED DISCONNECT SWITCH is ON.
Standard:	VERIFY <u>ED4/1-1/DSW</u> , 125 V DC STATION BATTERY BT <u>ED4</u> FUSED DISCONNECT SWITCH is ON.
Examiner Cue:	The Disconnect Switch is ON.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 3	Ensure <u>ED4/2-10/BKR</u> , IV <u>PC4</u> SPLY is ON.
Standard:	VERIFY <u>ED4/2-10/BKR</u> , IV <u>PC4</u> SPLY is ON.
Examiner Cue:	The Breaker is ON.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 4	Ensure the following breakers and transfer switches are in the position indicated: <ul style="list-style-type: none"> • TRS2-IV<u>PC4</u>, XFER SW S2 is in NORMAL SOURCE AND key inserted in lock with lock extended.
Standard:	VERIFY TRS2-IV <u>PC4</u> , XFER SW S2 is in NORMAL SOURCE AND key inserted in lock with lock extended.
Examiner Cue:	The Transfer Switch is in NORMAL SOURCE with key inserted in lock and lock extended.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 5	Ensure the following breakers and transfer switches are in the position indicated: <ul style="list-style-type: none"> • TRS1-IV<u>u</u>PC4, BYP SW S1 is in BYPASS SOURCE.
Standard:	VERIFY TRS1-IV <u>u</u> PC4, BYP SW S1 is in BYPASS SOURCE.
Examiner Cue:	The Switch is in the BYPASS SOURCE position.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 6	Ensure the following breakers and transfer switches are in the position indicated: <ul style="list-style-type: none"> • IV<u>u</u>PC4/CB1/BKR, DC INPUT is OFF AND key inserted in lock.
Standard:	VERIFY IV <u>u</u> PC4/CB1/BKR, DC INPUT is OFF AND key inserted in lock.
Examiner Cue:	The Breaker is in OFF and key is inserted in the lock.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 7	Ensure the following breakers and transfer switches are in the position indicated: <ul style="list-style-type: none"> • IV<u>u</u>PC4/CB2/BKR, AC OUTPUT is OFF.
Standard:	VERIFY IV <u>u</u> PC4/CB2/BKR, AC OUTPUT is OFF.
Examiner Cue:	The Breaker is in OFF.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 8	Ensure the following breakers and transfer switches are in the position indicated: <ul style="list-style-type: none"> • IV<u>u</u>PC4/CB4/BKR, BYP SOURCE is OFF.
Standard:	VERIFY IV <u>u</u> PC4/CB4/BKR, BYP SOURCE is OFF.
Examiner Cue:	The Breaker is in OFF.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 9	IF Distribution Panel <u>PC4</u> is deenergized, THEN ensure ALL load breakers on Panel <u>PC4</u> (CP <u>PC4</u> -ECDPPC-04) are OFF.
Standard:	DETERMINE that <u>PC4</u> is energized from Alternate Source per Initial Condition.
Examiner Cue:	PC4 was energized from its Alternate Source and the Load Breakers are CLOSED.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Examiner Note:	DC INPUT Breaker should be closed immediately after the Precharge Pushbutton is released.
Perform Step: 10 ✓	Press PRECHARGE pushbutton until yellow PRECHARGE light is lit.
Standard:	PRESS PRECHARGE pushbutton until yellow PRECHARGE light is lit.
Examiner Cue:	Yellow PRECHARGE light is lit.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 11 ✓	While the Precharge light is lit, Turn ON IV <u>PC4</u> /CB1/BKR, DC INPUT
Standard:	PLACE IV <u>PC4</u> /CB1/BKR, DC INPUT, to ON.
Examiner Cue:	The Breaker is ON.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 12	Verify Inverter AC OUTPUT voltage is 118 to 128 VAC.
Standard:	VERIFY Inverter AC OUTPUT voltage is 118 to 128 VAC.
Examiner Cue:	Inverter AC OUTPUT voltage is 120 volts.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 13 ✓	Turn ON IV <u>PC4</u> /CB2/BKR, AC OUTPUT.
Standard:	PLACE IV <u>PC4</u> /CB2/BKR, AC OUTPUT to ON.
Examiner Cue:	The Breaker is ON.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 14 ✓	Turn ON IV <u>u</u> PC4/CB4/BKR, BYP SOURCE.
Standard:	PLACE IV <u>u</u> PC4/CB4/BKR, BYP SOURCE to ON.
Examiner Cue:	The Breaker is ON.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 15	Verify IN SYNC light is LIT.
Standard:	VERIFY IN SYNC light is LIT.
Examiner Cue:	The IN SYNC light is LIT.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 16 ✓	Depress BYPASS SOURCE TO LOAD pushbutton (Static Switch) and verify BYPASS SOURCE SUPPLYING LOAD red light is LIT.
Standard:	DEPRESS BYPASS SOURCE TO LOAD pushbutton (Static Switch) and VERIFY BYPASS SOURCE SUPPLYING LOAD red light is LIT.
Examiner Cue:	BYPASS SOURCE SUPPLYING LOAD red light is LIT.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 17 ✓	Place TRS1-IV <u>u</u> PC4, BYP SW S1 in NORMAL SOURCE.
Standard:	PLACE TRS1-IV <u>u</u> PC4, BYP SW S1 in NORMAL SOURCE.
Examiner Cue:	The Switch is in the NORMAL SOURCE position.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Examiner Note:	The Panel is located in the Cable Spreading Room Elevation 807'.	
Perform Step: 18 ✓	IF Panel <u>PC4</u> is powered from the alternate source (<u>EC4</u>), THEN perform the following steps SIMULTANEOUSLY to transfer Panel <u>PC4</u> to the preferred source: <ul style="list-style-type: none"> • Turn ON <u>PC4/00/BKR-1</u>, IV<u>PC4</u> TO 118 VAC INSTRUMENT DISTR PANEL <u>PC4</u> PREFERRED FEEDER BREAKER. • Turn OFF <u>PC4/00/BKR-2</u>, <u>EC4</u> TO 118 VAC INSTRUMENT DISTR PANEL <u>PC4</u> ALTERNATE FEEDER BREAKER. 	
Standard:	LOOSEN slide bar and SIMULTANEOUSLY : <ul style="list-style-type: none"> • PLACE <u>PC4/00/BKR-1</u>, IV<u>PC4</u> TO 118 VAC INSTRUMENT DISTR PANEL <u>PC4</u> PREFERRED FEEDER BREAKER to ON. • PLACE <u>PC4/00/BKR-2</u>, <u>EC4</u> TO 118 VAC INSTRUMENT DISTR PANEL <u>PC4</u> ALTERNATE FEEDER BREAKER to OFF. 	
Examiner Cue:	Breaker #1 is ON and Breaker #2 is OFF.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 19	Verify IV <u>PC4</u> alarm lamps are OFF.	
Standard:	VERIFY IV <u>PC4</u> INVERTER FAILURE / LOW DC VOLTAGE / FAN FAILURE alarm lamps are OFF.	
Examiner Cue:	The alarm lamps are OFF.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 20 ✓	Depress INVERTER TO LOAD pushbutton (Static Switch) and verify INVERTER SUPPLYING LOAD yellow light is LIT.	
Standard:	DEPRESS INVERTER TO LOAD pushbutton (Static Switch) and VERIFY INVERTER SUPPLYING LOAD yellow light is LIT.	
Examiner Cue:	INVERTER SUPPLYING LOAD yellow light is LIT.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 21	Verify Inverter AC OUTPUT voltage is 118 to 128 VAC.	
Standard:	VERIFY Inverter AC OUTPUT voltage is 118 to 128 VAC.	
Terminating Cue:	Inverter AC OUTPUT voltage is 120 VAC. This JPM is complete.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

STOP TIME:	
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INITIAL CONDITIONS:

Given the following conditions on Unit 1 (Unit 2):

- uPC4 Protection Bus is aligned to its Alternate Power Source uEC4 via uPC4/00/BKR-2.
- Inverter IVuPC4 has been turned over to Operations to place in service on the uPC4 Protection Bus.
- SOP-607A/B, 118 VAC Distribution System and Inverters, Section 5.8.1, Energizing IVuPC4 and Distribution Panel uPC4 is complete through Step B.
- All power supplies to the Inverter are off.

INITIATING CUE:

The Unit Supervisor directs you to ALIGN the Unit 1 (Unit 2) Inverter IVuPC4 to supply the uPC4 Bus.

PERFORM THIS JPM ON UNIT 1 (UNIT 2).

Facility: CPNPP JPM # RO/SRO NRC P-2 Task # RO4005 K/A # 059.AA1.03 3.0 / 2.9 SF-9
 Title: Respond to Accidental Release of Radioactive Liquid

Examinee (Print): _____

Testing Method:

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

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: An accidental release of radioactive liquid is in progress. The Shift Manager has provided a key to operate X-HS-5253, Laundry Holdup & Monitor Tank Discharge Valve.

Initiating Cue: The Unit Supervisor DIRECTS you to:

- ENTER the Radiation Control Area.
- LOG onto an appropriate Radiation Work Permit.
- PERFORM actions at the Liquid Waste Processing System Panel per ABN-903, Accidental Release of Radioactive Liquid starting at Step 2.3.2.

Task Standard: Locate and correctly perform Critical Steps of ABN-903.

Required Materials: ABN-903, Accidental Release of Radioactive Liquid, Rev. 6, PCN-2

Validation Time: 10 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

PLANT SETUP**EXAMINER:**

PROVIDE the examinee with a copy of:

- **ABN-903, Accidental Release of Radioactive Liquid, INITIAL and/or N/A as appropriate up to Step 2.3.2.**

NOTE: This JPM includes an evaluation of entry into the RCA. The candidate will perform the RCA entry and then the Accidental Release of Radioactive Liquid tasks. The JPM is then temporarily suspended while the second RCA JPM is completed (P-3). Once JPM P-3 is finished, the examiner will return to JPM P-1 and complete the RCA exit portion of this JPM.

√ - Check Mark Denotes Critical Step

START TIME:

Perform Step: 1	Radiation Workers should obtain their TLD at the TLD Storage Racks on the 810' Hallway.
Standard:	OBTAIN TLD at the TLD Storage Racks on the 810' Hallway.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 2	Radiation Workers should obtain an electronic dosimeter at Access Control.
Standard:	OBTAIN an electronic dosimeter at Access Control.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 3	Radiation Workers should log into the Access computer by: <ul style="list-style-type: none"> • Provide EID Bar-Code for identification.
Standard:	LOG into the Access computer using EID Bar-Code for identification.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 4	Radiation Workers should log into the Access computer by: <ul style="list-style-type: none"> • Provide TLD No. Bar-Code for verification.
Standard:	LOG into the Access computer using TLD No. Bar-Code for verification.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 5 √	Radiation Workers should log into the Access computer by: <ul style="list-style-type: none"> • Specifying their RWP/GAP and Task numbers.
Standard:	SPECIFY a Radiation Work Permit and Task Number(s).
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>
Perform Step: 6	Radiation Workers should log into the Access computer by: <ul style="list-style-type: none"> • Providing the appropriate response to the electronic signature for RWP authorization.
Standard:	PROVIDE the appropriate response to the electronic signature for RWP authorization.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 7 ✓	Radiation Workers should log into the Access computer by: <ul style="list-style-type: none"> • Inserting their electronic dosimeter to set up parameters and reset the dosimeter.
Standard:	INSERT the electronic dosimeter to set up parameters and reset the dosimeter.
Examiner Note:	The examinee will enter the RCA and perform required tasks.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Examiner Cue:	Remind examinee to simulate these steps of this JPM.
Perform Step: 8 ✓	Verify the Liquid Waste Processing Discharge - HIGH Radiation alarm - DARK <ul style="list-style-type: none"> • X-LP-01 (AB 790 Rm X-174 LWPS Panel)
Standard:	TRANSIT to the Liquid Waste Processing Panel and DETERMINE the ALM-0301-2.6, LWPS EFFLUENT MONITOR ALERT radiation alarm is illuminated.
Examiner Cue:	LWPS alarm window 2.6, LWPS EFFLUENT MONITOR ALERT alarm is illuminated.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 9	Ensure liquid waste processing discharge valve CLOSED. <ul style="list-style-type: none"> • X-RV-5253, LWPS LHMT X-01/X-02 DISCH HDR RAD ISOL VLV
Standard:	OBSERVE X-RV-5253, Laundry Holdup & Monitor Tank Discharge Valve position indication on the Liquid Waste Process Panel.
Examiner Cue:	The red OPEN light is illuminated and the green CLOSE light is extinguished.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Examiner Note:	The key operated valve has CLOSE/AUTO/OPEN positions.	
Perform Step: 10 ✓	Ensure liquid waste processing discharge valve CLOSED. <ul style="list-style-type: none"> • X-RV-5253, LWPS LHMT X-01/X-02 DISCH HDR RAD ISOL VLV 	
Standard:	INSERT key and TURN XHS-5253 handswitch to CLOSE position and OBSERVE X-RV-5253, Laundry Holdup & Monitor Tank Discharge Valve position indication on the Liquid Waste Process Panel.	
Examiner Cue:	The red OPEN light is illuminated and the green CLOSE light is extinguished.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Examiner Note:	The following step represents the alternate path for this JPM.	
Perform Step: 11 ✓	IF the valve can NOT be closed manually, THEN locally close its upstream isolation. <ul style="list-style-type: none"> • XWP-0117, LWPS DISCH HDR VLV 5253 UPSTRM ISOL VLV (AB 790 near entrance to CCW HX Rm, X-175). 	
Standard:	CLOSE XWP-0117, LWPS DISCH HDR VLV 5253 UPSTRM ISOL VLV by ROTATING the valve handwheel in the CLOCKWISE direction.	
Examiner Cue:	The upstream isolation is closed. This JPM will be completed upon exit from the RCA.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 12	Upon exit from the RCA, Radiation Workers should log out of the Access computer system by: <ul style="list-style-type: none"> • Providing their EID Bar-Code identification. 	
Standard:	Upon exit from the RCA, SCAN the EID Bar-Code identification.	
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>	

Perform Step: 13 ✓	Upon exit from the RCA, Radiation Workers should log out of the Access computer system by: <ul style="list-style-type: none"> • Inserting their electronic dosimeter to record dose and log off the system.
Standard:	Upon exit from the RCA, INSERT the electronic dosimeter to record dose and LOG OFF the system.
Terminating Cue:	This JPM is complete.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

STOP TIME:	
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INITIAL CONDITIONS: An accidental release of radioactive liquid is in progress. The Shift Manager has provided a key to operate X-HS-5253, Laundry Holdup & Monitor Tank Discharge Valve.

INITIATING CUE: The Unit Supervisor DIRECTS you to:

- ENTER the Radiation Control Area.
- LOG onto an appropriate Radiation Work Permit.
- PERFORM actions at the Liquid Waste Processing System Panel per ABN-903, Accidental Release of Radioactive Liquid starting at Step 2.3.2.

Facility: CPNPP JPM # RO/SRO NRC P-3 Task # AO6405 K/A # 061.A2.04 3.4 / 3.8 SF-4S
 Title: Manually Latch and Open the Turbine Driven Auxiliary Feedwater Pump Trip & Throttle Valve

Examinee (Print): _____

Testing Method:

Simulated Performance: X

Classroom: _____

Actual Performance: _____

Simulator: _____

Plant: X

READ TO THE EXAMINEE

I will explain the Initial Conditions, which steps to simulate or discuss, and provide an Initiating Cue. When you complete the task successfully, the objective for this JPM will be satisfied.

Initial Conditions: The Unit 1 (Unit 2) Turbine Driven Auxiliary Feedwater Pump has tripped on overspeed.

Initiating Cue: The Unit Supervisor directs you to RESET the Unit 1 (Unit 2) u-HV-2452, Trip and Throttle Valve for the Turbine Driven Auxiliary Feedwater Pump per ABN-305, Auxiliary Feedwater System Malfunction, Attachment 1.

Task Standard: Locate and correctly perform Critical Steps of ABN-305, Attachment 1.

Required Materials: ABN-305, Auxiliary Feedwater System Malfunction, Rev. 6, PCN-2

Validation Time: 5 minutes Time Critical: N/A Completion Time: _____ minutes

Comments:

Result: SAT UNSAT

Examiner (Print / Sign): _____ Date: _____

PLANT SETUP**EXAMINER:**

PROVIDE the examinee with a copy of:

- **ABN-305, Auxiliary Feedwater System Malfunction, Attachment 1.**

This JPM can be performed on either Unit. **CIRCLE** the Unit on which the JPM is to be performed on the JPM Worksheet and the JPM Cue Sheet.

√ - Check Mark Denotes Critical Step

START TIME:

Examiner Cue:	Remind examinee to simulate all steps of this JPM.
Perform Step: 1 √	If the turbine has tripped on overspeed then manually reset the overspeed trip linkage.
Standard:	MOVES linkage towards latch.
Examiner Cue:	Trip linkage remains in the RESET position
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 2 √	Ensure flat surface of tappet nut lined up correctly with trip tappet head lever.
Standard:	VERIFY tappet nut and trip tappet head lever alignment matches the picture on Attachment 1 of ABN-305.
Examiner Cue:	Tappet nut is aligned correctly with trip tappet head lever.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 3 √	Turn handwheel clockwise until latch mechanism is fully engaged. (Notice in photograph #2).
Standard:	TURN handwheel clockwise until latch mechanism is fully engaged.
Examiner Cue:	Latch mechanism is engaged.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 4 √	Turn handwheel counter clockwise until actuator is in the "Fully Up" position. (Notice that the valve stem is now showing in photograph #3)
Standard:	TURN handwheel counter clockwise until actuator is in the "Fully Up" position.
Examiner Cue:	Actuator indicates full up.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

Perform Step: 5 ✓	Notify the control room that the TDAFWP Trip and Throttle Valve is latched and open.
Standard:	NOTIFY the control room that the TDAFWP Trip and Throttle Valve is latched and open.
Terminating Cue:	Control room acknowledges the valve is latched and open. This JPM is complete.
Comment:	SAT <input type="checkbox"/> UNSAT <input type="checkbox"/>

STOP TIME:	
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INITIAL CONDITIONS: The Unit 1 (Unit 2) Turbine Driven Auxiliary Feedwater Pump has tripped on overspeed.

INITIATING CUE: The Unit Supervisor directs you to RESET the Unit 1 (Unit 2) u-HV-2452, Trip and Throttle Valve for the Turbine Driven Auxiliary Feedwater Pump per ABN-305, Auxiliary Feedwater System Malfunction, Attachment 1.

PERFORM THIS JPM ON UNIT 1 (UNIT 2).