

WATTS BAR NUCLEAR PLANT

B.1.a

B.1.a Withdraw Shutdown Banks

WATTS BAR NUCLEAR PLANT

B.1.a

Task: Withdraw Shutdown Banks

Alternate Path: Following failure of the group step counters, the reactor trip breakers are opened in accordance with Technical Requirement 3.1.7.

Facility JPM #: B.1.a 2009 May NRC Exam

K/A Rating(s): 001 A3.05 3.5/3.5

Task Standard: Withdrawal of shutdown banks is initiated starting with Shutdown Bank A.

Preferred Evaluation Location:

Preferred Evaluation Method:

Simulator X In-Plant

Perform X Simulate

References: SOI-85.0, Control Rod Drive and Position Indication System, Rev. 38.
TR 3.1.7, Reactivity Control Systems, Position Indicating System - Shutdown.
AOI-2, Malfunction of Reactor Control System, Rev. 37.

Task Number: RO-085-SOI-85-001
RO-085-SOI-85-010

APPLICABLE FOR: RO/SRO

10CFR55.45: CFR: 41.7/45.13

Validation Time: 10 min. **Time Critical:** No

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Applicant: _____
NAME SSN

Time Start: _____
Time Finish: _____

Performance Rating: SAT ____ UNSAT ____ Performance Time ____

Examiner: _____
NAME SIGNATURE / DATE

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COMMENTS

WATTS BAR NUCLEAR PLANT

B.1.a

SIMULATOR OPERATOR INSTRUCTIONS:

1. Initialize to IC **311**.

a. Ensure the following items are displayed on the Director Summary Page:

rd19	Shutdown bank a demand counter fails	0
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b. Load NRC_Exam_Event_Files.evt from the NRC Exam Flash Drive. Event 20 is set when Shutdown Bank A reaches 100 steps. Malfunction rd19 will enter at this event.

c. Place the simulator in RUN momentarily, and acknowledge all alarms

3. ENSURE 1-NR-92-145 Recorder is selected to Source Range N31 and Intermediate Range N35.

4. Freeze simulator until the performer indicates understanding of the task and time is allowed for control board familiarization.

5. After performer indicates understanding of task, place simulator in run.

Tools/Equipment/Procedures Needed:

Marked copy of SOI-85.01, indicating steps have been performed to Section 5.4, Step 6.

WATTS BAR NUCLEAR PLANT

B.1.a

READ TO OPERATOR

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. A unit startup is in progress following a trip from 100% power due to a generator electrical relay malfunction that occurred 6 days ago.
2. Per the Nuclear Operating Book (NOB), Sheet 7 BANK OVERLAP AND ROD INSERTION LIMITS, the shutdown banks fully withdrawn position is 230 steps.
3. GO-2, Reactor Startup, Section 3.2 Actions Performed Before Startup, is complete to Step [13.10], WITHDRAW Shutdown Rods to fully withdrawn per SOI-85.01.
4. The US/SRO has approved shutdown bank withdrawal.
5. SOI-85.01, Control Rod Drive and Indication System, is being performed and is complete to through Section 5.4, Step 5.

INITIATING CUES:

1. You are to continue the performance of SOI-85.01 at Section 5.4 Step 6, and withdraw the shutdown banks.
2. Notify the SRO when the shutdown banks are fully withdrawn.

WATTS BAR NUCLEAR PLANT

B.1.a

START TIME: _____

STEP/STANDARD	SAT/UNSAT
<p><u>STEP 1.:</u> Obtain the appropriate procedure.</p> <p><u>STANDARD:</u> Performer identifies SOI-85.01 and goes to Section 5.4 "Shutdown Banks Withdrawal".</p> <p>Evaluator Cue: Hand marked-up copy of SOI-85.01 to the performer after the performer successfully identifies the procedure and section.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> [6] ENSURE 1-RBSS, ROD BANK SELECTOR SWITCH [1-M-4], in MANUAL.</p> <p><u>STANDARD:</u> Performer ensures that the Rod Bank Selector Switch RBSS-1 is in MANUAL position.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 3:</u> [7] OBTAIN SRO Approval to withdraw Shutdown Banks.</p> <p><u>STANDARD:</u> If requested, state that SRO approval has been granted.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

*****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.***

WATTS BAR NUCLEAR PLANT

B.1.a

STEP/STANDARD	SAT/UNSAT
<p><u>STEP 4:</u> [8] OBSERVE the following for proper response during Bank Withdrawal:</p> <p>A. Source Range (SR) _____</p> <p>B. Intermediate Range (IR) _____</p> <p>C. Startup Meters _____</p> <p>D. Nuclear Recorders _____</p> <p><u>STANDARD:</u> Performer monitors above parameters as the rods are being withdrawn</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 5:</u> [9] SELECT SD Bank A (SBA) on ROD BANK SELECTOR SWITCH, 1-RBSS.</p> <p><u>STANDARD:</u> Performer places Rod Bank Selector switch RBSS-1 in SBA position.</p> <p><u>COMMENTS:</u></p>	<p><u>Critical Step</u></p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 6:</u> [10] PLACE 1-FLRM, IN-HOLD-OUT SWITCH, to OUT to begin withdrawing Shutdown Banks A1 and A2 to greater than or equal to 225 Steps.</p> <p><u>STANDARD:</u> Performer places 1-FLR to the OUT position and monitors shutdown bank A group A1 and A2 are responding.</p> <p><u>COMMENTS:</u></p>	<p><u>Critical Step</u></p> <p>___ SAT</p> <p>___ UNSAT</p>

*****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.***

WATTS BAR NUCLEAR PLANT

B.1.a

<u>STEP/STANDARD</u>	<u>SAT/UNSAT</u>
<p><u>STEP 7:</u> [11] MONITOR the following as the Bank is being withdrawn:</p> <ul style="list-style-type: none"> A. Group Step Counters B. RPIs C. "In-Out" Status Lights D. Rod speed (64 Steps/Minute) <p><u>STANDARD:</u> Performer monitors parameters as the rods are being withdrawn.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>Note to evaluator: Malfunction to fail step counters is to be inserted when Shutdown Bank A the rods reach approximately 100 steps. Performer may refer to TR-3.1.7. If so, the required action is to open the Reactor Trip breakers.</p>	
<p><u>STEP 9:</u> Open the Reactor Trip Breakers.</p> <p><i>Cue: After the reactor trip breakers have been opened state ' We will stop here'</i></p> <p><u>STANDARD:</u> Performer determines the Group 1 step counter is not capable of determining the demand position for each of the Shutdown bank A rods within ± 2 steps and opens the reactor trip breakers.</p> <p><u>COMMENTS:</u></p>	<p><u>Critical Step</u></p> <p>___ SAT</p> <p>___ UNSAT</p>

STOP TIME _____

*****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.***

WATTS BAR NUCLEAR PLANT**B.1.b****APPLICANT CUE SHEET****(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)****DIRECTION TO TRAINEE:**

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. A unit startup is in progress following a trip from 100% power due to a generator electrical relay malfunction that occurred 6 days ago.
2. Per the Nuclear Operating Book (NOB), Sheet 7 BANK OVERLAP AND ROD INSERTION LIMITS, the shutdown banks fully withdrawn position is 230 steps.
3. GO-2, Reactor Startup, Section 3.2 Actions Performed Before Startup, is complete to Step [13.10], WITHDRAW Shutdown Rods to fully withdrawn per SOI-85.01.
4. The US/SRO has approved shutdown bank withdrawal.
5. SOI-85.01, Control Rod Drive and Indication System, is being performed and is complete to through Section 5.4, Step 5.

INITIATING CUES:

1. You are to continue the performance of SOI-85.01 at Section 5.4 Step 6, and withdraw the shutdown banks.
2. Notify the SRO when the shutdown banks are fully withdrawn.

WATTS BAR NUCLEAR PLANT

B.1.b

B.1.b Place Excess Letdown in Service per AOI-6

WATTS BAR NUCLEAR PLANT

B.1.b

EVALUATION SHEET

Task: Place Excess Letdown in Service per AOI-6.

Alternate Path: N/A

Facility JPM #: 3-OT-JPMR022 Rev 3

<u>K/A Rating(s):</u> 004 A4.06 [3.6/3.1]	004A 1.11 [3.0/3.0]	004 A2.22 [3.2/3.1]
004 A2.22 [3.2/3.1]	2.1.30 [3.9/3.4]	2.1.23 [3.9/4.0]

Task Standard: Excess Letdown has been placed in service per AOI-6, Step 15.

Preferred Evaluation Location:

Preferred Evaluation Method:

Simulator X In-Plant

Perform X Simulate

References: AOI-6, "Small Reactor Coolant System Leak", Rev 32.

Task Number: RO-062-SOI-62-007
RO-068-AOI-6-001

APPLICABLE FOR: RO/SRO

10CFR55.45: 6, 12

Validation Time: 10 min. **Time Critical:** No

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Applicant: _____	NAME	SSN	Time Start: _____
			Time Finish: _____

Performance Rating: SAT UNSAT Performance Time

Examiner: _____ / _____

NAME	SIGNATURE	DATE
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COMMENTS

WATTS BAR NUCLEAR PLANT

B.1.b

WATTS BAR NUCLEAR PLANT

B.1.b

SIMULATOR OPERATOR INSTRUCTIONS:

1. Initialize to IC **312**.
 - a. Ensure following letdown and charging isolation valves are closed.
 - a. 1-FCV-62-72.
 - b. 1-FCV-62-73.
 - c. 1-FCV-62-74.
 - d. 1-FCV-62-76.
 - e. 1-FCV-62-69.
 - f. 1-FCV-62-70.
 - g. 1-FCV-62-85.
 - h. 1-FCV-62-86.
 - i. 1-FCV-62-90.
 - j. 1-FCV-62-91.
 - b. Ensure 1-FCV-62-93 is in manual and seal flow is stable at approximately 8 gpm per RCP seal.
 - c. Ensure pressurizer level is approximately 66% and rising slowly.
2. Acknowledge all alarms.
3. Place simulator in FREEZE until the performer indicates an understanding of the task.
4. After performer indicates understanding of the task, place simulator to RUN.

Tools/Equipment/Procedures Needed:

A marked up copy of AOI-6, signed off through Step 14, with Step 15 CIRCLED.

WATTS BAR NUCLEAR PLANT

B.1.b

READ TO OPERATOR

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. The Unit is operating at 100 % power.
2. A small leak has been found on the normal letdown path.
3. Letdown and Charging have been isolated per AOI-6, "Small Reactor Coolant System Leak".
4. The RADPRO Supervisor has been informed of the intent to establish Excess Letdown.
5. You are the Operator at the Controls.

INITIATING CUES:

1. The Unit Supervisor has directed you to establish excess letdown to the VCT per AOI-6, Section 3.0, and Step 15, RESPONSE NOT OBTAINED.
2. You are to notify the Unit Supervisor when the excess letdown has been aligned.

WATTS BAR NUCLEAR PLANT**B.1.b****START TIME:** _____

<p><u>STEP 1:</u> Obtain a copy of the procedure.</p> <p><u>STANDARD:</u> A copy of AOI-6 has been obtained.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> Check pressurizer level DROPPING or STABLE.</p> <p><u>STANDARD:</u> Performer observes a RISING trend on pressurizer level and enters RESPONSE NOT OBTAINED column for actions.</p> <p>NOTE: Use of the RNO Column was directed by the INITIATING CUES.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 3:</u> If pZR level is rising, THEN PLACE excess letdown in service.</p> <p><u>STANDARD:</u> Performer enters the RESPONSE NOT OBTAINED column and begins procedure actions.</p> <p>NOTE: Use of the RNO Column was directed by the INITIATING CUES.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.b

<p><u>STEP 4:</u> a. OPEN 1-FCV-70-143</p> <p><u>STANDARD:</u> At panel 1-M-27B the performer places 1-HS-70-143A to OPEN. Performer verifies the RED light is LIT and the GREEN light is OFF. Step is critical to establish excess letdown flow.</p> <p>NOTE: When the performer opens 1-FCV-70-143, Annunciator 239-D will be received. This alarm occurs whenever 1-FCV-70-143 is OPEN and flow on 1-FS-70-8 is less than 230 gpm.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 5:</u> b. OPEN 1-FCV-70-85</p> <p><u>STANDARD:</u> At panel 1-M-27B the performer places 1-HS-70-85A to OPEN and holds the switch to OPEN until the RED light is LIT and the GREEN light is OFF. Step is critical to establish excess letdown flow.</p> <p>NOTE: When the performer opens 1-FCV-70-85, Annunciator 239-D will clear as soon as flow is greater than 230 gpm Performer may use 1-FI-70-84 (panel 1-M-27B) to monitor flow.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 6:</u> c. OPEN 1-FCV-62-54</p> <p><u>STANDARD:</u> At panel 1-M-5 the performer places 1-HS-62-54 to OPEN and holds the switch to OPEN until the RED light is LIT and the GREEN light is OFF. Step is critical to establish excess letdown flow.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.b

<p><u>STEP 7:</u> d. OPEN 1-FCV-62-55</p> <p><u>STANDARD:</u> At panel 1-M-5 the performer places 1-HS-62-55 to OPEN and holds the switch to OPEN until the RED light is LIT and the GREEN light is OFF. Step is critical to establish excess letdown flow.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 8:</u> e. ENSURE 1-FCV-62-59 is in NORMAL</p> <p><u>STANDARD:</u> At panel 1-M-5 the performer determines that 1-HS-62-59A is in the NORM position, with the RED seal return light LIT.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 9:</u> f. ADJUST 1-HIC-62-56A to obtain maximum flow and maintain excess letdown hx outlet temp less than 200°F.</p> <p><u>STANDARD:</u> At panel 1-M-5 the performer opens 1-HIC-62-56A while monitoring 1-TI-62-58. Excess letdown temperature must remain below 200°F as indicated on 1-TI-62-58. Step is critical to establish excess letdown flow.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT**B.1.b**

<p><u>STEP 10:</u> STABILIZE pwr level by adjusting seal injection and excess letdown flows.</p> <p><u>STANDARD:</u> At panel 1-M-5 the performer observes pwr level trend on 1-LR-68-339. Performer may also set up a trend of pwr level on ICS computer using inputs from 1-LI-68-339A, 1-LI-68-335A and 1-LI-68-320.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 11:</u> Notify the Unit Supervisor that Excess Letdown has been placed in service.</p> <p><u>STANDARD:</u> The Unit Supervisor has been notified that Excess Letdown has been placed in service.</p> <p>**CUE: When notified, acknowledge the report.</p> <p><u>COMMENTS:</u></p> <p style="text-align: center;"><u>END OF TASK</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

STOP TIME: _____

WATTS BAR NUCLEAR PLANT**B.1.c****APPLICANT CUE SHEET****(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)****DIRECTION TO TRAINEE:**

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task.

INITIAL CONDITIONS:

1. The Unit is operating at 100 % power.
2. A small leak has been found on the normal letdown path.
3. Letdown and Charging have been isolated per AOI-6, "Small Reactor Coolant System Leak".
4. The RADPRO Supervisor has been informed of the intent to establish Excess Letdown.
5. You are the Operator at the Controls.

INITIATING CUES:

1. The Unit Supervisor has directed you to establish excess letdown to the VCT per AOI-6, Section 3.0, and Step 15, RESPONSE NOT OBTAINED.
2. You are to notify the Unit Supervisor when the excess letdown has been aligned.

WATTS BAR NUCLEAR PLANT

B.1.c

B.1.c Isolate Cold Leg Accumulators per E-1

WATTS BAR NUCLEAR PLANT

B.1.c

SIMULATOR OPERATOR INSTRUCTIONS:

1. Initialize to IC 313

a. Ensure the following items are displayed on the Director Summary Page:

th03a	loca-small leak loop 1	100% severity
th01a	loca-hot leg loop 1	4.5% severity
hs-63-67a	hs-63-67a sis accumulator tank 4 flow isolation valve	Open

b. Ensure that the following remote is set as indicated on the Director Remote Page.

sir01	pwr to cold leg accumu isolation valves fcv-63-67, 80, 98, 119	on
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c. Place the simulator in RUN momentarily, and acknowledge all alarms.

4. Place simulator in FREEZE until the performer indicates an understanding of the task.

3. After performer indicates understanding of the task, place simulator to RUN.

Tools/Equipment/Procedures Needed:

A marked-up copy of E-1, signed off through Step 25, with Step 26 circled.

WATTS BAR NUCLEAR PLANT

B.1.c

READ TO OPERATOR

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. A large LOCA has occurred.
2. E-1 performance has just been resumed after performance of ES-1.3.
3. You are Control Room Operator.

INITIATING CUES:

1. The Unit Supervisor directs you perform E-1, Step 26, DETERMINE if cold leg accumulators should be isolated.
2. You are to notify Unit Supervisor when you have completed Step 26.

WATTS BAR NUCLEAR PLANT

B.1.c

START TIME: _____

<p><u>STEP 1:</u> Obtain a copy of the procedure.</p> <p><u>STANDARD:</u> A copy of E-1 has been obtained</p> <p>EXAMINER'S CUE: <i>After the performer has demonstrated the method of obtaining the correct instruction, the examiner will provide a marked-up copy of the instruction.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> a. ENSURE power to isolation valves restored USING Appendix A (E-1), CLA Breaker Operation.</p> <p><u>STANDARD:</u></p> <p>EXAMINER'S CUE: <i>When asked, inform the performer that E-1 Appendix A CLA BREAKER OPERATION is complete.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.c

<p><u>STEP 3:</u> CHECK RCS pressure less than 250 psig.</p> <p><u>STANDARD:</u> Performer reads RCS pressure from one of the following PAM instruments and determines that pressure is approximately 70 psig.</p> <p style="padding-left: 40px;">RVLIS-ICCM PLASMA DISPLAY on 1-M-4 or 1-M-6 Loop 4 HL PRESS 1-PI-68-70 Loop 3 HL PRESS 1-PI-68-64 Loop 2 HL Press 1-PI-68-63</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 4:</u> CLOSE cold leg accumulator isolation valves.</p> <p><u>STANDARD:</u> Performer places 1-HS-63-118, 1-HS-63-98, 1-HS-63-80 and 1-HS-63-67 to close. Performer observes that 1-HS-63-67 indicating lights do not change, indicating that 1-FCV-63-67, CLA 4 Isolation valve remains OPEN. Step is critical since this action is taken to minimize the chance of nitrogen injection into the RCS.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 5:</u> c. PERFORM the following</p> <p><u>STANDARD:</u> Performer determines that RNO actions are required since 1-FCV-63-67 did NOT CLOSE. Step is critical since this action is taken to minimize the chance of nitrogen injection into the RCS.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.c

STEP 6: 1) **RESET** Phase B

STANDARD:

_____ Performer observes the Phase B lights on the Master Isolation Signal Status panels 1-XX-55-6C and 1-XX-55-6D on 1-M-6 are LIT, indicating that Phase B has been actuated.

_____ Performer depresses 1-HS-30-64D ϕ B CNTMT ISOL RESET TR-A, and observes the ϕ B light goes DARK on 1-XX-55-6C

_____ Performer depresses 1-HS-30-64E ϕ B CNTMT ISOL RESET TR-B, and observes the ϕ B light goes DARK 1-XX-55-6D.

Step is critical since this action is taken to allow the air supply to the nitrogen makeup and vent valves to be restored.

COMMENTS:

**CRITICAL
STEP**

___ SAT

___ UNSAT

WATTS BAR NUCLEAR PLANT

B.1.c

STEP 7: 2) **ENSURE** aux air pressure to cntmt is greater than 75 psig [M-15] **AND OPEN** cntmt air supply valves.

STANDARD:

_____ Performer observes air pressure on 0-PI-32-104A, Aux Air A Press and 0-PI-32-105A, Aux Air Press indicate 95 psig and that 1-FCV-32-80, 1-FCV-32-102, and 1-FCV-32-110 are CLOSED.

_____ Performer places 1-HS-30-80A in the OPEN position and holds until RED light is LIT, GREEN light is DARK.

_____ Performer places 1-HS-30-102A in the OPEN position and holds until RED light is LIT, GREEN light is DARK.

_____ Performer places 1-HS-30-110A in the OPEN position and holds until RED light is LIT, GREEN light is DARK.

Step is critical since this action is taken to allow the air supply to the nitrogen makeup and vent valves to be restored.

COMMENTS:

**CRITICAL
STEP**

___ SAT

___ UNSAT

WATTS BAR NUCLEAR PLANT

B.1.c

<p><u>STEP 8:</u> 3) OPEN any unisolated accumulator's nitrogen makeup valve.</p> <p><u>STANDARD:</u> Performer determines that 1-FCV-63-63 for CLA 4 must be OPENED.</p> <p style="margin-left: 40px;">Performer places 1-HS-63-63A N2 TO CL ACCUM 4 to OPEN position, and verifies RED light is LIT GREEN light is DARK.</p> <p style="margin-left: 40px;">Step is critical since this action is taken to minimize the chance of nitrogen injection into the RCS.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 8:</u> 4) OPEN 1-FCV-63-65 vent header.</p> <p><u>STANDARD:</u> Performer rotates 1-HIC-63-65A in the counterclockwise direction to OPEN 1-FCV-63-65 FULLY.</p> <p style="margin-left: 40px;">Step is critical since this action is taken to minimize the chance of nitrogen injection into the RCS.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 9:</u> Notify the Unit Supervisor that E-1, Step 26 is complete.</p> <p><u>STANDARD:</u> Performer notifies the Unit Supervisor that Step 26 is complete</p> <p><u>COMMENTS:</u></p> <p style="text-align: center; margin-top: 20px;">END OF TASK</p>	<p>___ SAT</p> <p>___ UNSAT</p>

STOP TIME _____

WATTS BAR NUCLEAR PLANT**B.1.d****APPLICANT CUE SHEET****(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)****DIRECTION TO TRAINEE:**

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. A large LOCA has occurred.
2. E-1 performance has just been resumed, after performance of ES-1.3.
3. You are Control Room Operator.

INITIATING CUES:

1. The Unit Supervisor directs you perform E-1, Step 26, DETERMINE if cold leg accumulators should be isolated.
2. You are to notify Unit Supervisor when you have completed Step 26.

WATTS BAR NUCLEAR PLANT

B.1.d

B.1.d Place RHR Spray in Service per FR-Z.1

WATTS BAR NUCLEAR PLANT

B.1.d

EVALUATION SHEET

Task: Place RHR Spray in Service per FR-Z.1

Alternate Path: When the performer attempts to close 1-FCV-63-94, the valve will NOT close. This requires entry into the RNO in order to place Train A RHR Spray in service.

Facility JPM #: 3-OT-JPMR016A Rev 5

K/A Rating(s): 005 A4.01 [3.6/3.4]

Task Standard: Train "A" of RHR Spray has been placed in-service per FR-Z.1.

Preferred Evaluation Location:

Preferred Evaluation Method:

Simulator X In-Plant

Perform X Simulate

References: FR-Z.1, "High Containment Pressure", Rev.10

Task Number: RO-113-FR-Z.1-001

APPLICABLE FOR: RO/SRO

10CFR55.45: 3, 4, 6, 7, 8

Validation Time: 10 min. **Time Critical:** No

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Candidate: _____	_____	Time Start: _____
	NAME	SSN/EIN
		Time Finish: _____

Performance Rating: SAT ____ UNSAT ____ Performance Time ____

Examiner: _____ / _____

NAME	SIGNATURE	DATE
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COMMENTS

WATTS BAR NUCLEAR PLANT

B.1.d

WATTS BAR NUCLEAR PLANT

B.1.d

SIMULATOR OPERATOR INSTRUCTIONS:

1. Initialize to IC 314.
 - a. Ensure the following items are displayed on the Director Summary Page:

th03a	loca-small leak loop 1	100% severity
th01a	loca-hot leg loop 1	4.5% severity
ch01a	containment pressure transmitter failure pdt-3-42	14
ch01b	containment pressure transmitter failure pdt-3-43	14
ch01c	containment pressure transmitter failure pdt-3-44	14
ch01d	containment pressure transmitter failure pdt-3-45	14
ei-72-12a	07020 cntmt spray pmp b amps	35
fi-72-13	07010 cntmt spray pmp b flow	3000
hs-72-10a-3	06010 cntmt spray pump b mtr sw(red)	on
hs-72-10a-1	06010 cntmt spray pump b mtr sw(green)	off
hs-72-27a-1	06020 cntmt spray pump a mtr sw(green)	off
pdi-30-42	03160 cntmt press diff indicator	12
pdi-30-43	03170 cntmt press diff indicator	12
pdi-30-44	03180 cntmt press diff indicator	12
pdi-30-45	03190 cntmt press diff indicator	12
pdr-30-133-1	03150 cntmt annulus dp indicator	0.5
hs-72-10a	hs-72-10a containment spray pump b mtr sw	ptlock
hs-63-94a	Hs-63-94a rhr to rcs cl1_4 flow control valve s	open

- b. Place the simulator in RUN momentarily, and acknowledge all alarms.
2. Place Hold Order on A CS Pump - handswitch is in PULL-TO-LOCK position
3. Place simulator in FREEZE until the performer indicates an understanding of the task.
4. After performer indicates understanding of the task, place simulator to RUN.

Tools/Equipment/Procedures Needed:

Ensure marked copies of FR-Z.1 are available to the evaluators.

WATTS BAR NUCLEAR PLANT

B.1.d

READ TO OPERATOR

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. 1A-A Containment Spray Pump has been tagged out of service.
2. The unit was at 100% when a Large Break LOCA occurred.
3. 1B-B Containment Spray Pump started and has been spraying Containment.
4. The break occurred an hour and 10 minutes ago.
5. All ECCS equipment is performing its design functions and is on Containment Sump Recirc.
6. You are the Operator at the Controls (OAC).

INITIATING CUES:

1. The Unit Supervisor directs you to perform FR-Z., "HIGH CONTAINMENT PRESSURE", Step 10, DETERMINE if RHR spray should be placed in service.
2. You are to notify the Unit Supervisor when you have completed Step 10.

WATTS BAR NUCLEAR PLANT

B.1.d

START TIME: _____

<p><u>STEP 1:</u> Obtain a copy of the procedure.</p> <p><u>STANDARD:</u> A copy of FR-Z.1 has been obtained.</p> <p>EXAMINER'S CUE: <i>After the performer has demonstrated the method of obtaining the correct instruction, the evaluator will provide a marked-up copy of the instruction.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> [Step 10] DETERMINE if RHR Spray should be placed in service:</p> <p>a. CHECK the following conditions:</p> <ul style="list-style-type: none"> • At least one hour elapsed since beginning of the accident. • Cntmt Press greater than 9.5 psig. • RHR suction aligned to the cntmt sump. • At least one charging pump and one SI pump running <p><u>STANDARD:</u></p> <ol style="list-style-type: none"> 1. Performer has determined that an hour has lapsed since the beginning of the accident. [Given in initial conditions] 2. Cntmt press has been checked > 9.5 psig. 3. FCV-63-72 and FCV-63-73 verified to be open by red indicating lights. 4. 1 CCP & 1 SIP verified to be running by indicating lights or amps. <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.d

<p><u>STEP 3:</u> [STEP 10b] ALIGN Train B RHR spray: 1) ENSURE Train B RHR pump RUNNING.</p> <p><u>STANDARD:</u> Train B RHR pump verified to be running by indicating light or amps.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 4:</u> [STEP 10b 2)] Close RHR crosstie 1-FCV-74-35.</p> <p><u>STANDARD:</u> 1-HS-74-35-A has been checked in the CLOSED position and the green light illuminated on HS.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 5:</u> [STEP 10b 3)] CLOSE RHR injection 1-FCV-63-94.</p> <p><u>STANDARD:</u> 1-HS-63-94-A has been placed in the CLOSED position and the performer recognizes that the GREEN light DOES NOT illuminate. Performer enters the RNO Column to perform actions to align Train A RHR spray. Step is critical since the RHR system is not designed to support both RHR spray and suction requirements associated with sump recirculation.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p>EVALUATOR NOTE: Performer may either have US dispatch personnel or will dispatch personnel to investigate the cause of the failure of 1-FCV-63-94.</p>	

WATTS BAR NUCLEAR PLANT

B.1.d

<p><u>STEP 6:</u> [STEP 10b RNO] ALIGN Train A RHR spray: 1) ENSURE Train A RHR pump RUNNING.</p> <p><u>STANDARD:</u> Train A RHR pump verified to be running by indicating light or amps.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 7:</u> [STEP 10b RNO] 2) CLOSE RHR crosstie 1-FCV-74-33.</p> <p><u>STANDARD:</u> 1-HS-74-33-A has been placed/checked in the CLOSED position and the green light illuminated on HS.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 8:</u> [STEP 10b RNO] 3) CLOSE RHR injection 1-FCV-63-93.</p> <p><u>STANDARD:</u> 1-HS-63-93-A has been placed in the CLOSED position and the green light illuminated on HS. Step is critical to establish A Train RHR Spray.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 9:</u> [STEP 10b RNO] 4) OPEN RHR spray 1-FCV-72-40.</p> <p><u>STANDARD:</u> 1-HS-72-40A has been placed/checked in the OPEN position and the Red light illuminated on hand switch. Step is critical to establish A Train RHR Spray.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.d

<p><u>STEP 10:</u> Notify the Unit Supervisor that RHR spray is in service.</p> <p><u>STANDARD:</u> Notify the Unit Supervisor that RHR spray has been placed in service.</p> <p>**CUE: When notified, acknowledge the report using repeat back.</p> <p><u>COMMENTS:</u></p> <p><u>END OF TASK</u></p>	<p>____ SAT</p> <p>____ UNSAT</p>
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TIME STOP: _____

WATTS BAR NUCLEAR PLANT**B.1.e****CANDIDATE CUE SHEET****(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)****DIRECTION TO TRAINEE:**

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task.

INITIAL CONDITIONS:

1. 1A-A Containment Spray Pump has been tagged out of service.
2. The unit was at 100% when a Large Break LOCA occurred.
3. 1B-B Containment Spray Pump started and has been spraying Containment.
4. The break occurred an hour and 10 minutes ago.
5. All ECCS equipment is performing its design functions and is on Containment Sump Recirc.
6. You are the Operator at the Controls (OAC).

INITIATING CUES:

1. The Unit Supervisor directs you to perform FR-Z., "HIGH CONTAINMENT PRESSURE", Step 10, DETERMINE if RHR spray should be placed in service.
2. You are to notify the Unit Supervisor when you have completed Step 10.

WATTS BAR NUCLEAR PLANT

B.1.e

B.1.e Place Containment Hydrogen Recombiner “A” in Service per SOI-83.01

WATTS BAR NUCLEAR PLANT

B.1.e

WATTS BAR NUCLEAR PLANT**B.1.e****SIMULATOR OPERATOR INSTRUCTIONS:**

1. Initialize to IC **315**.

- a. Ensure the following items are displayed on the Director Summary Page:

th03a	loca-small leak loop 1	100% severity
th01a	loca-hot leg loop 1	4.5% severity
mux_03c123	125-a cntmt hi-hi press steamline isol	on
pi-30-310	03110 containment pressure	3.5
pi-30-311	03120 containment pressure	3.5
h2i-43-200	03060 loca h2 cntmt monitor	3.5
h2i-43-210	03070 loca h2 cntmt monitor	3.5
pdi-30-42	03160 cntmt press diff indicator	4
pdi-30-43	03170 cntmt press diff indicator	4
pdi-30-44	03180 cntmt press diff indicator	4
pdi-30-45	03190 cntmt press diff indicator	4

- b. Place the simulator in RUN momentarily, and acknowledge all alarms.
2. Place simulator in FREEZE until the performer indicates an understanding of the task.
3. After performer indicates understanding of the task, place simulator to RUN.

Tools/Equipment/Procedures Needed:

Ensure copies of SOI-83.01 and TI-83.01 are available for the evaluator.

WATTS BAR NUCLEAR PLANT

B.1.e

READ TO OPERATOR

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit has experienced a LOCA.
2. MCR crew is following E-1, Loss of Reactor or Secondary Coolant.
3. E-1, directs that the hydrogen recombiners be placed in service using SOI-83.01, Containment Hydrogen Recombiners.
4. You are Control Room Operator.

INITIATING CUES:

1. The Unit Supervisor has directed you to place Hydrogen Recombiner "A" in service, using SOI-83.01, Containment Hydrogen Recombiners.
2. Notify Unit Supervisor when the required power setting is reached

WATTS BAR NUCLEAR PLANT

B.1.e

START TIME: _____

<p><u>STEP 1:</u> Obtain a copy of the procedure.</p> <p><u>STANDARD:</u> Obtains SOI-83.01 and goes to Section 8.1.</p> <p>EXAMINER'S CUE: <i>After the performer has demonstrated the method of obtaining the correct instruction, the evaluator can provide a copy of the instruction.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>CAUTION 1 Temperature of 1400°F is not to be exceeded on any operable thermocouple.</p> <p>CAUTION 2 On DG power, DG load should remain 4400 kW or less.</p> <p>CAUTION 3 If there is any indication Recombiner A is not operating properly (through recombinder instrumentation), the Recombiner should be shutdown, a WR written, and the other Recombiner placed in service.</p>	
<p>NOTE: TI-83.01, HYDROGEN RECOMBINER REQUIRED POWER-VS-CONTAINMENT PRESSURE contains the curves that will be needed to adjust the power level for the recombinder.</p>	
<p><u>STEP 2:</u> [1] ENSURE POWER ADJUST potentiometer [1-M-10] set at 000.</p> <p><u>STANDARD:</u> Performer verifies that three zeros ("000") are indicated on Panel 1-M-10.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.e

<p><u>STEP 3:</u> [2] VERIFY the White POWER IN AVAILABLE light LIT.</p> <p><u>STANDARD:</u> Performer verifies that the White POWER IN AVAILABLE light LIT on 1-M-10.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 4:</u> [3] ENSURE TEMPERATURE CHANNEL (thermocouple selector) is selected for channel 1, 2, or 3.</p> <p><u>STANDARD:</u> Performer verifies that the TEMPERATURE CHANNEL (thermocouple selector) is selected for channel 1, 2, or 3.</p> <p>NOTE Any one of the three settings is acceptable.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 5:</u> [4] ENSURE TEMPERATURE OUT (indicator dial), set on 1400°F.</p> <p><u>STANDARD:</u> Performer verifies that the TEMPERATURE OUT (indicator dial), set on 1400°F.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>NOTE: Red light on TEMPERATURE OUT (indicator dial) is lit when setpoint selected on indicator is reached.</p>	

WATTS BAR NUCLEAR PLANT**B.1.e**

<p><u>STEP 6:</u> [5] REQUEST Chemistry to sample containment atmosphere for H2 concentration.</p> <p><u>STANDARD:</u> Performer contacts Chemistry to sample containment atmosphere.</p> <p>EVALUATOR CUE: <i>Containment atmosphere has been sampled and the hydrogen concentration is 3.5%.</i></p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 7:</u> [6] RECORD the Date and Time on Data Sheet 1.</p> <p><u>STANDARD:</u> Performer records Date and Time on Data Sheet 1</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.e

<u>STEP 8:</u>	<p>[7] RECORD CNTMT H2 % on Data Sheet 1, THEN INDICATE from which source H2 percentage was obtained:</p> <p>[7.1] ANAL A CNTMT H2, 1-H21-43-200 [1-M-10]</p> <p>[7.2] ANAL B CNTMT H2, 1-H21-43-210 [1-M-10]</p> <p>[7.3] Chemistry sample analysis</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<u>STANDARD:</u>	<p>Performer has data available from each of the sources and may enter a value for any of them. The containment hydrogen concentration is 3.5%.</p>	
<u>COMMENTS:</u>		

<u>STEP 9:</u>	<p>[8] IF containment H2 is greater than 5%, THEN DO NOT place H2 Recombiner in service, and NOTIFY the SM.</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<u>STANDARD:</u>	<p>Performer confirms that hydrogen concentration is less than 5% and enters N/A for this step.</p>	
<u>COMMENTS:</u>		

WATTS BAR NUCLEAR PLANT

B.1.e

<p><u>STEP 10:</u> [9] RECORD CNTMT PRESS (psig) on Data Sheet 1, THEN INDICATE which indicator was used:</p> <p style="padding-left: 40px;">[9.1] 1-PI-30-310, CNTMT WR PRESS [1-M-9]</p> <p style="padding-left: 40px;">[9.2] 1-PI-30-311, CNTMT WR PRESS [1-M-9]</p> <p><u>STANDARD:</u> Performer enters a value of 3 psig for either pressure indicator.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 11:</u> [10] TURN POWER OUT (MS Starter) switch to ON, and VERIFY switch plate Red light LIT.</p> <p><u>STANDARD:</u> Performer places switch in the UP position, and verifies the RED light is LIT. Step is critical since this action provides power to the recombiner.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 12:</u> [11] ADJUST POWER ADJUST potentiometer clockwise to obtain 5 kW on POWER OUT meter, and MAINTAIN for 10 minutes.</p> <p><u>STANDARD:</u> Performer adjusts the potentiometer and obtains 5 kW on the POWER OUT meter. Step is critical to warm up the recombiner.</p> <p>EVALUATOR CUE: Time Compression - 10 minutes have elapsed.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.e

<p><u>STEP 13:</u> [12] ADJUST POWER ADJUST potentiometer to obtain 10 kW on POWER OUT meter, and MAINTAIN for 10 minutes.</p> <p><u>STANDARD:</u> Performer adjusts the potentiometer and obtains 10 kW on the POWER OUT meter. Step is critical to warm up the recombiner.</p> <p>EVALUATOR CUE: <i>Time Compression - 10 minutes have elapsed.</i></p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 14:</u> [13] ADJUST POWER ADJUST potentiometer to obtain 20 kW on POWER OUT meter, and MAINTAIN for 5 minutes.</p> <p><u>STANDARD:</u> Performer adjusts the potentiometer and obtains 20 kW on the POWER OUT meter. Step is critical to warm up the recombiner.</p> <p>EVALUATOR CUE: <i>Time Compression - 5 minutes have elapsed.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 15:</u> [14] DETERMINE the REQUIRED POWER (kW) based on current CNTMT PRESSURE (psig) using Attachment 3 of TI-83.01, HYDROGEN RECOMBINER REQUIRED POWER-VS-CONTAINMENT PRESSURE CURVES.</p> <p><u>STANDARD:</u> Performer uses 3 psig containment pressure and reads 70 kW off the Attachment 3 curve in TI-83.01, HYDROGEN RECOMBINER REQUIRED POWER-VS-CONTAINMENT PRESSURE CURVES.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.e

<p><u>STEP 16:</u> [15] ADJUST POWER ADJUST potentiometer to obtain the REQUIRED POWER (kW) using Attachment 3 of TI-83.01, HYDROGEN RECOMBINER REQUIRED POWER-VS-CONTAINMENT PRESSURE CURVES.</p> <p><u>STANDARD:</u> Performer adjusts the potentiometer and obtains 70 kW on the POWER OUT meter. Step is critical to warm up the recombiner.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p>NOTES</p> <p>1) Periodic potentiometer adjustment is necessary to maintain Required Power setting. Temperature is obtained by selecting an average temperature of all operable thermocouples. Temperature should rise to 1150-1400°F in approximately 4 hours depending on initial containment temperature.</p> <p>2) Recombiner temperature should be allowed to stabilize before making power changes due to the lag time between adjustment and actual temperature change.</p> <p>3) 1 kW power change is approximately equal to 20°F recombiner temperature change.</p>	
<p><u>STEP 17:</u> [16] AFTER recombiner temperature has stabilized for approximately 30 minutes, THEN ADJUST POWER ADJUST potentiometer to maintain 1225 - 1400°F recombiner average temperature.</p> <p><u>STANDARD:</u></p> <p>EVALUATOR CUE: <i>Time Compression - 30 minutes have elapsed, and another operator will make adjustments to maintain temperature between 1225 - 1400°F.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT**B.1.e**

STEP 18: [18] **NOTIFY** SRO that Recombiner A is in service and will be monitored at least once every 24 hours per Section 8.2.

STANDARD: Performer notifies the SRO that "A" Recombiner is in service.

COMMENTS:

___ SAT

___ UNSAT

END OF TASK

STOP TIME _____

WATTS BAR NUCLEAR PLANT

B.1.f

APPLICANT CUE SHEET **(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)**

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

- 1. Unit has experienced a LOCA.**
- 2. MCR Crew is following Emergency Instruction E-1, Loss of Reactor or Secondary Coolant.**
- 3. E-1, Step 30 RNO Step c. directs that the hydrogen recombiners be placed in service using SOI-83.01, Containment Hydrogen Recombiners.**
- 4. You are Control Room Operator.**

INITIATING CUES:

- 1. The Unit Supervisor has directed you to place Hydrogen Recombiner "A" in service, using SOI-83.01, Containment Hydrogen Recombiners.**
- 2. Notify Unit Supervisor when the required power setting is reached**

WATTS BAR NUCLEAR PLANT

B.1.f

B.1.f Synchronizing DG 1B-B from the MCR per SOI-82.02

WATTS BAR NUCLEAR PLANT

B.1.f

B.1.f

EVALUATION SHEET

Task: Synchronizing DG 1B-B from the MCR per SOI-82.02

Alternate Path: N/A

Facility JPM #: 3-OT-JPMR060

<u>K/A Rating(s):</u>	064-A1.03 [3.2/3.3]	064-A4.01 [4.0/4.3]	
	064-A2.03 [3.1/3.1]	064-A4.03 [3.2/3.3]	064-A4.06 [3.9/3.9]

Task Standard: 1B-B Diesel Generator is synchronized to the shutdown board from the MCR per SOI-82.02 Section 8.1.4, and then loaded to ≥ 3.3 MW and 0.74-1.25 MVARs.

Preferred Evaluation Location:

Simulator X In-Plant

Preferred Evaluation Method:

Perform X Simulate

References: SOI-82.02, "Diesel Generator (D/G) 1B-B" Rev. 65

Task Number: RO-082-SOI-82-002
RO-082-SOI-82-008
RO-082-SOI-82-010

APPLICABLE FOR: RO/SRO

10CFR55.45: 3, 4, 6, 8

Validation Time: 18 min. **Time Critical:** No

Candidate: _____ **Time Start:** _____
 _____ **SSN/ID** _____
 _____ **Time Finish:** _____

Performance Rating: SAT _____ UNSAT _____ Performance Time _____

Examiner: _____ / _____
NAME SIGNATURE DATE

COMMENTS

WATTS BAR NUCLEAR PLANT

B.1.f

SIMULATOR OPERATOR INSTRUCTIONS:

1. Initialize to IC # 316.
2. 1B-B Diesel Generator is running unloaded, after an idle start.
 - b. Place the simulator in RUN momentarily, and acknowledge all alarms.
3. Place simulator in FREEZE until the performer indicates an understanding of the task.
4. After performer indicates understanding of the task, place simulator to RUN.

Tools/Equipment/Procedures Needed:

Ensure a marked-up copy of SOI-82.02 is available to provide to each performer.
Stop Watch, to time Synchroscope rotation.

WATTS BAR NUCLEAR PLANT

B.1.f

READ TO OPERATOR

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit is at 100% power.
2. Testing is being conducted on 1B-B diesel generator. It is to be paralleled to the shutdown board for a Factory Rep. on site.
3. The 1B-B DG is running at rated speed, after performance of SOI-82.02, Section 8.1.3 Idle Speed to Rated Speed.
4. You are an extra control room operator on shift.

INITIATING CUES:

1. The Unit Supervisor directs you to parallel the 1B-B diesel generator to the 1B-B Shutdown Board per SOI-82.02 and load it to ≥ 3.3 MWs.
2. SOI-82.01, Section 8.1.4 Steps 1 through 3 have been performed.
3. You are to inform the Unit Supervisor when the diesel generator is loaded to ≥ 3.3 MWs.

WATTS BAR NUCLEAR PLANT

B.1.f

START TIME: _____

<p><u>STEP 1:</u> Obtain a copy of the instruction.</p> <p><u>STANDARD:</u> A copy of SOI-82.02 Section 8.1.4 has been obtained.</p> <p>EXAMINER'S CUE: <i>After the performer has demonstrated the method of obtaining the correct instruction, the evaluator can provide a copy of the instruction.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> [4] PLACE 1-HS-82-48, DG MODE SELECTOR, in PARALLEL. [0-M-26].</p> <p><u>STANDARD:</u> 1-HS-82-48, DG MODE SELECTOR, is placed in PARALLEL. This step is critical for task performance to allow proper operation of voltage regulator & DG speed droop circuits.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

*****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.***

WATTS BAR NUCLEAR PLANT

B.1.f

STEP 3: [5] ENSURE the following sync switches for 1B-B D/G in OFF.				<div style="text-align: center; font-weight: bold;">SAT</div> <div style="text-align: center; font-weight: bold;">UNSAT</div>
NOMENCLATURE	LOCATION	POSITION	UNID	
MAINTENANCE 6.9 UNIT BD 1C SYNC SWITCH	0-M-26	OFF	1-HS-57-69	
ALTERNATE CSST C SYNC SWITCH	0-M-26	OFF	1-HS-57-115	
DG SYNC SWITCH	0-M-26	OFF	1-HS-57-74	
NORMAL-CSST D SYNC SWITCH	0-M-26	OFF	1-HS-57-72	
STANDARD: Performer checks listed sync switches in OFF position COMMENTS:				
STEP 4: [6] PLACE 1-HS-57-74, DG SYNC SWITCH, to SYN.				<div style="text-align: center; font-weight: bold;">CRITICAL STEP</div> <div style="text-align: center; font-weight: bold;">SAT</div> <div style="text-align: center; font-weight: bold;">UNSAT</div>
STANDARD: 1-HS-57-74, DG SYNC SWITCH, is placed to SYN position. This step is critical to allow synchronization of D/G to 1B-B Shutdown board.				
COMMENTS:				
CAUTION: When adjusting speed and voltage care must be taken to prevent overshooting desired values. Voltage control response is approximately five times faster than speed control response.				

*****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.***

WATTS BAR NUCLEAR PLANT

B.1.f

<p><u>STEP 5:</u> [7] MATCH generator Incoming Frequency (1-XI-82-32) with Running Frequency (1-XI-82-33) using 1-HS-82-43, SPEED CONTROL [0-M-26].</p> <p><u>STANDARD:</u> 1-HS-82-43 is used to adjust generator frequency (incoming) on 1-XI-82-32 to match with board frequency (running) on 1-XI-82-33. This step is critical to allow synchronization of D/G to 1B-B Shutdown board.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 6:</u> [8] MATCH generator Incoming Voltage, (1-EI-82-34) with Running Voltage (1-EI-82-35) using 1-HS-82-42, VOLTAGE REGULATOR [0-M-26].</p> <p><u>STANDARD:</u> 1-HS-82-42 is used to adjust generator voltage on 1-EI-82-34 to match with board voltage on 1-EI-82-35. This step is critical to allow synchronization of D/G to 1B-B Shutdown board.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.f

<p><u>STEP 7:</u> [9] ENSURE DG Frequency and Voltage are MATCHED with 6.9 kV SD Bd, AND ADJUST 1-HS-82-43, SPEED CONTROL, [0-M-26] to obtain desired clockwise rotation (15 or more seconds) on 1-XI-82-31, TRAIN 1B-B SYNCHROSCOPE.</p> <p><u>STANDARD:</u> Performer verifies running and incoming frequency and voltage are matched and that the synchroscope is moving slowly in the clockwise direction at 15 seconds or more per rotation on the scope. This step is critical to ensure proper DG synchronization that is performed in the next step.</p> <p>NOTE TO EVALUATOR: <i>The performer may use a stopwatch to time the 15 second rotation. Provide stopwatch if asked.</i></p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p>NOTES</p> <p>1) Steps 8.1.4[10] through 8.1.4[11.3] may be signed off after completion of Step 8.1.4[11.3]</p> <p>2) Peer checking required on the next step</p>	

WATTS BAR NUCLEAR PLANT

B.1.f

<p>STEP 8: [10] WHEN TRAIN 1B-B SYNCHROSCOPE (1-XI-82-31) reaches 12 o'clock, THEN TURN 1-HS-57-73A, 1914 - DG TO SD 1B-B, to CLOSE.</p> <p>STANDARD: ACB 1914, DG TO SD 1B-B, is closed with 1-HS-57-73A, when the synchroscope reaches 12 o'clock. This step is critical to ensure proper DG synchronization onto 1B-B Shutdown Board.</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p>NOTE Maintain outgoing VARS by periodically adjusting voltage regulator with 1-HS-82-42 while loading DG. Controls should not be operated simultaneously.</p>	
<p>STEP 9: [11] PERFORM the following:</p> <p>[11.1] LOAD DG promptly using 1-HS-82-43, SPEED CONTROL to at least 1.1 Megawatts as indicated on 1-EI-82-40A, DG MEGAWATTS (0-M-26).</p> <p>STANDARD: The generator output is increased to ≥ 1.1 MW on 0-EI-82-40A. This step is critical to ensure proper DG loading and avoid reverse power trip.</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.f

NOTE DG MEGAVARS may “swing” when the 6.9 KV automatic tap changers engage to stabilize the voltage in the system.	
<p><u>STEP 10:</u> [11.2] PERFORM the following:</p> <p style="padding-left: 40px;">[b] MAINTAIN DG MEGAVARS 0.75 to 1.25 OUTGOING on 1-EI-82-41A, with 1-HS-82-42, VOLTAGE REGULATOR.</p> <p><u>STANDARD:</u> The generator megavars is adjusted to between 0.75 and 1.25 Megavars on 0-EI-82-41A.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>
CAUTION Operation of the DG at load of 2.7 MW or less for extended period of time may lead to exhaust fire.	
<p><u>STEP 11:</u> [11.3] PERFORM the following:</p> <p style="padding-left: 40px;">[c] RAISE load to at least 3.3 Megawatts.</p> <p><u>STANDARD:</u> The generator output is raised to ≥ 3.3 MW on 0-EI-82-40A. This step is to ensure DG is loaded per task assignment.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: right;">CRITICAL STEP</p> <p style="text-align: right;">___ SAT</p> <p style="text-align: right;">___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.f

<p><u>STEP 12:</u> [11.4] PLACE 1-HS-57-74, DG SYNC SWITCH, to OFF.</p> <p><u>STANDARD:</u> 1-HS-57-74, DG SYNC SWITCH, is placed to OFF</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 13:</u> [11.5] MAINTAIN DG operation for a minimum of one hour, OR until engine temperatures stabilize.</p> <p><u>STANDARD:</u> Performer recognizes that the DG must be run for a minimum of 1 hour, OR until engine temperatures stabilize.</p> <p><i>EVALUATOR CUE: If asked, state temperatures will be monitored locally until they stabilize.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 14:</u> Notify the Unit Supervisor that DG 1B-B is synchronized to the shutdown board and loaded to ≥ 3.3 MW.</p> <p><u>STANDARD:</u> The Unit Supervisor is notified that DG 1B-B is synchronized to the shutdown board and loaded to ≥ 3.3 MW.</p> <p><i>CUE: As Unit Supervisor, when notified, acknowledge the report.</i></p> <p><u>COMMENTS:</u></p> <p style="text-align: center;"><u>END OF TASK</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

TIME STOP: _____

*****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.***

WATTS BAR NUCLEAR PLANT**B.1.g****CANDIDATE CUE SHEET****(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)****DIRECTION TO TRAINEE:**

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit is at 100% rated thermal power.
2. Testing is being conducted on 1B-B diesel generator. It is to be paralleled to the shutdown board for a Factory Rep. on site.
3. The 1B-B DG is running at rated speed, after performance of SOI-82.02, Section 8.1.3 Idle Speed to Rated Speed.
4. You are an extra control room operator on shift.

INITIATING CUES:

1. The Unit Supervisor directs you to parallel the 1B-B diesel generator to the 1B-B Shutdown Board per SOI-82.02 and load it to ≥ 3.3 MWs.
2. You are to inform the Unit Supervisor when the diesel generator is loaded to ≥ 3.3 MWs.

*****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.***

WATTS BAR NUCLEAR PLANT

B.1.g

B.1.g Return PRM N-42 to Service per AOI-4

*****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.***

WATTS BAR NUCLEAR PLANT

B.1.g

Task: Return PRM N-42 to Service per AOI-4

Alternate Path: When rod control is returned to auto a continuous rod insertion occurs requiring performer to return rod control to manual and then a trip of the reactor.

Facility JPM #: 3-OT-JPMR108A Rev 0

K/A Rating(s): 015A4.02 [3.9/3.9] 2.1.23 [3.9/4.0] 001AA1.05 [4.3/4.2]

Task Standard: The DETECTOR CURRENT COMPARATOR switch for UPPER SECTION, the DETECTOR CURRENT COMPARATOR switch for LOWER SECTION, the ROD STOP BYPASS, the POWER MISMATCH BYPASS, and the COMPARATOR CHANNEL DEFEAT have been placed in NORMAL or OPERATE as directed AOI-4, Attachment 1 and then reactor is manually tripped due to continuous rod insertion.

Preferred Evaluation Location:

Preferred Evaluation Method:

Simulator X In-Plant

Perform X Simulate

References: AOI-4, "NUCLEAR INSTRUMENTATION MALFUNCTIONS", Rev 28

Task Number: RO-092-AOI-4-002
RO-085-AOI-2-005

APPLICABLE FOR: RO/SRO

10CFR55.45: 2, 3, 4, 5, 6, 12

Validation Time: 12 min. **Time Critical:** No

=====

<u>Applicant:</u> _____ <div style="text-align: center;">NAME</div>	_____ <div style="text-align: center;">SSN/EIN</div>	Time Start: _____ Time Finish: _____
-------------------------------------------------------------------------------	---------------------------------------------------------	-----------------------------------------

Performance Rating: SAT UNSAT Performance Time

Examiner: _____ / _____

NAME
SIGNATURE
DATE

COMMENTS

*****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.***

WATTS BAR NUCLEAR PLANT

B.1.g

*****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.***

WATTS BAR NUCLEAR PLANT

B.1.g

SIMULATOR OPERATOR INSTRUCTIONS:

1. Initialize to IC **317**.
 - a. Ensure the following items are displayed on the Director Summary Page:

rd02	Uncontrolled rod insertion, bank d, group 2	100% severity
-------------	---------------------------------------------	---------------

- b. Ensure the switches on 1-M-13 to the "N42" position to defeat Power Range Channel N42 inputs per AOI-4, Attachment 1, and Step 1 a. through f.
 - c. Place the simulator in RUN momentarily, and acknowledge all alarms.
2. Load NRC_Exam_Event_Files.evt from the NRC Exam Flash Drive. The malfunction will be entered when Rod Control Selector Switch is placed in AUTO (Event 23).
3. Place simulator in FREEZE until the performer indicates an understanding of the task.
4. After performer indicates understanding of the task, place simulator to RUN.

Tools/Equipment/Procedures Needed:

Ensure a marked-up copy of AOI-4 is available to the Evaluator and clean copies of AOI-2 in all copies of Abnormal Operating Instructions on the Simulator Floor.

*****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.***

WATTS BAR NUCLEAR PLANT

B.1.g

READ TO OPERATOR

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit 1 is at 100% power.
2. PRM N42 failed during last shift.
3. AOI-4 Section 3.4 has been completed through Step 16.a.
4. Work Control has notified the MCR that repairs to PRM N42 are complete and the instrument is ready to be returned to service.
5. You are the Operator at the Controls.

INITIATING CUES:

1. The Unit Supervisor has directed you to return PRM N42 to service.
2. You are to notify the US when the control rods have been returned to AUTO.

*****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.***

WATTS BAR NUCLEAR PLANT

B.1.g

START TIME: _____

<p><u>STEP 1:</u> Obtain the correct procedure.</p> <p><u>STANDARD:</u> A copy of AOI-4 has been obtained.</p> <p>EXAMINER'S CUE: <i>After the performer has demonstrated the method of obtaining the correct instruction, the evaluator will provide a marked-up copy of the instruction.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>CAUTION Allowing at least 5 minutes between any rod control input (i.e., T-avg, T-ref, or NIS) change and placing rods in AUTO, will help prevent undesired control rod movement.</p>	
<p><u>STEP 2:</u> [Step 16b] REFER TO Attachment 1, PRM Function At NIS Rack, step 2.</p> <p><u>STANDARD:</u> Performer refers to Attachment 1, PRM Function At NIS Rack, Step 2 for restoration of PRM N42.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.g

NOTE TO EVALUATOR: The following steps are from Attachment 1 page 2 of 2 AOI-4

STEP 3: **[STEP 2] WHEN** PRM is ready for return to service, **THEN PERFORM** the following steps:

- a. **PLACE** DETECTOR CURRENT COMPARATOR switch for UPPER SECTION in NORMAL

STANDARD: Detector Current Comparator Upper Section switch placed to "NORMAL" (Miscellaneous Control & Indication Panel, 1-IDWR-92-N50-G IV)

Step is critical for proper restoration of upper power detector to current comparator.

COMMENTS:

**CRITICAL
STEP**

___ SAT

___ UNSAT

STEP 4: **[STEP 2 b] PLACE** DETECTOR CURRENT COMPARATOR switch for LOWER SECTION in NORMAL

STANDARD: Detector Current Comparator Lower Section switch placed to "NORMAL" (Miscellaneous Control & Indication Panel, 1-IDWR-92-N50-G IV).

Step is critical for proper restoration of lower power detector to current comparator.

COMMENTS:

**CRITICAL
STEP**

___ SAT

___ UNSAT

WATTS BAR NUCLEAR PLANT

B.1.g

<p>NOTE: On the following step, annunciator window 66-C, 67-C, 68-C, OR 69-C, N-(#) OVERPOWER ROD STOP BYPASSED, will clear depending on which channel is bypassed.</p>	
<p><u>STEP 5:</u> [STEP 2 c] PLACE ROD STOP BYPASS switch in OPERATE.</p> <p><u>STANDARD:</u> Rod Stop Bypass switch is positioned from “N42” to “OPERATE” (Miscellaneous Control & Indication Panel, 1-IDWR-92-N50-G IV)</p> <p>Step is critical for proper restoration of to enable rod stop interlock protection from this channel.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 6:</u> [STEP 2 d] PLACE POWER MISMATCH BYPASS switch in OPERATE.</p> <p><u>STANDARD:</u> Power Mismatch Bypass switch is positioned from “N42” to “OPERATE” (Miscellaneous Control & Indication Panel, 1-IDWR-92-N50-G IV)</p> <p>Step is critical to restore channel input to high auctioneering circuit and power mismatch circuits.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.g

NOTE: On the following step, annunciator window 82-E, NIS CHANNEL IN TEST, will clear.	
<p><u>STEP 7:</u> [STEP 2 e] PLACE COMPARATOR CHANNEL DEFEAT switch in NORMAL.</p> <p><u>STANDARD:</u> Comparator Channel Defeat Switch is positioned to "NORMAL" (Comparator & Rate Panel, Comparator N37, 1-IDWR-92-N37 IV).</p> <p> Step is critical to restore channel input to channel comparator alarm circuits.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: center;">CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
NOTE: On the following step, annunciator window 115-E, POWER RANGE FLUX RATE HI, will clear if the positive rate trip light is LIT.	
<p><u>STEP 8:</u> [STEP 2 f] IF POSITIVE RATE TRIP is LIT, THEN RESET RATE MODE switch.</p> <p><u>STANDARD:</u> Positive Rate Trip light on Power Range Upper N42A, 1-IDWR-92-42A II, is checked and determines light is NOT LIT and continues to next step.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.g

NOTE TO EVALUATOR: Performer returns to AOI-4 at step 16 c.

STEP 9: **[STEP 16 c] ENSURE** T-avg and T-ref within 1°.

___ SAT

STANDARD: Performer verifies T-avg and T-ref within 1° by recorder 1-TR-68-2B on 1-M-5 or other T-avg - T-ref indications.

___ UNSAT

COMMENTS:

STEP 10: **[STEP 16 d] ENSURE** zero demand on control rod position indication [1-M-4].

___ SAT

STANDARD: Performer determines zero demand on control rod position indication CERPI display or ICS computer display for CERPI

- CERPI Display
- Plant computer

___ UNSAT

COMMENTS:

WATTS BAR NUCLEAR PLANT

B.1.g

<p><u>STEP 11:</u> [STEP 16 e] IF auto rod control desired, PLACE control rods in AUTO.</p> <p><u>STANDARD:</u> The rod control hand switch has been placed in AUTO position.</p> <p>**CUE: <i>If asked, respond as US that auto rod control is desired.</i></p> <p>NOTE TO EVALUATOR: Continuous rod insertion malfunction is inserted when rod control is placed in AUTO. The operator may immediately return rod control to manual, check for rod motion stopped, and then trip the reactor before referring to AOI-2.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>NOTE TO EVALUATOR: The Following Steps are from AOI-2 Section 3.2 due to continuous rod insertion.</p>	
<p><u>STEP 12:</u> [STEP 1] PLACE control rods in MAN.</p> <p><u>STANDARD:</u> Rod control hand switch has been placed in Manual position.</p> <p>NOTE: Rods will continue to step IN.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.g

<p><u>STEP 13:</u> [STEP 2] CHECK control rod movement STOPPED.</p> <p><u>STANDARD:</u> Rod control indications have been checked for movement and performer determines that rods are still inserting and goes to RNO for step.</p> <p> **NOTE: Rods will continue to step IN.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 14:</u> [STEP 2 RNO] TRIP reactor. GO TO E-0, Reactor Trip or Safety Injection.</p> <p><u>STANDARD:</u> Reactor Trip hand switch on 1-M-4 or 1-M-6 has been placed to the TRIP position. Performer than goes to E-0.</p> <p> Critical step, as uncontrolled rod movement in manual rod control requires a reactor trip.</p> <p> **CUE: Upon transition to E-O, inform performer “WE’LL STOP HERE”.</p> <p><u>COMMENTS:</u></p> <p style="text-align: right;"><u>END OF TASK</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

TIME STOP: _____

WATTS BAR NUCLEAR PLANT**B.1.h****APPLICANT CUE SHEET****(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)****DIRECTION TO TRAINEE:**

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit 1 is at 100% power.
2. PRM N42 failed during last shift.
3. AOI-4 Section 3.4 has been completed through Step 16.a.
4. Work Control has notified the MCR that repairs to PRM N42 are complete and the instrument is ready to be returned to service.
5. You are the Operator at the Controls.

INITIATING CUES:

1. The Unit Supervisor has directed you to return PRM N42 to service.
2. You are to notify the US when the control rods have been returned to AUTO.

WATTS BAR NUCLEAR PLANT**B.1.h**

B.1.h Shutdown “A” Train EGTS Following a 10 Hour Run per SOI-65.02.

WATTS BAR NUCLEAR PLANT

B.1.h

Task: Shutdown "A" Train EGTS Following a 10 Hour Run per SOI-65.02.

Alternate Path: N/A

Facility JPM #: 3-OT-JPMR169

K/A Rating(s): 027A4.01 (3.3*/3.3*)

Task Standard: EGTS "A" Train has been shutdown and returned to ES Standby alignment in accordance with SOI-65.02.

Preferred Evaluation Location:

Preferred Evaluation Method:

Simulator X In-Plant

Perform X Simulate

References: SOI-65.02 "Emergency Gas Treatment System" Rev. 24

Task Number: RO-065-SOI-65-005

APPLICABLE FOR: RO/SRO

10CFR55.45: 3, 6, 8

Validation Time: 15 min. **Time Critical:** No

Applicant: _____
NAME

SSN

Time Start: _____
Time Finish: _____

Performance Rating: SAT UNSAT

Performance Time

Examiner: _____
NAME

SIGNATURE

DATE

COMMENTS

WATTS BAR NUCLEAR PLANT**B.1.h****SIMULATOR OPERATOR INSTRUCTIONS:**

1. Initialize to IC **318**
2. Ensure the alignment for "A" Train EGTS in service:
 - 1-FCV-65-10 - Open.
 - 1-FCO-65-26 - Open.
 - 1-HS-65-81/86 - OPEN
 - 1-HS-65-83/87 in A-AUTO STANDBY
 - 0-HS-65-23A - RUNNING.
3. Acknowledge all alarms.
5. Freeze simulator until the performer indicates understanding of the task and time is allowed for control board familiarization.
5. After performer indicates understanding of task, place simulator in run.

SIMULATOR OPERATOR INSTRUCTIONS:

NONE

Tools/Equipment/Procedures Needed:

Ensure clean copy of SOI-65.02 in all copies of Operating Instructions on the Simulator Floor.

WATTS BAR NUCLEAR PLANT

B.1.h

READ TO OPERATOR

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit 1 is at 100% power.
2. 0-SI-65-6-A "Emergency Gas Treatment System Train A 10-Hour Operation" performance in progress.
3. "A" Train EGTS Fan has been in service for 10 hours.
4. You are a support operator in the control room.

INITIATING CUES:

1. The Unit Supervisor directs you shutdown the "A" Train EGTS Fan per SOI-65.02 and return EGTS to Standby Alignment per the procedure.
2. You are to notify Unit Supervisor when you have completed the task.

WATTS BAR NUCLEAR PLANT

B.1.h

START TIME: _____

<p><u>STEP 1:</u> Obtain a copy of the procedure.</p> <p><u>STANDARD:</u> A copy of SOI-65.02 section 7.1 has been obtained.</p> <p>EXAMINER'S CUE: <i>After the performer has demonstrated the method of obtaining the correct instruction, the evaluator provides a copy of the instruction.</i></p> <p>NOTE TO EVALUATOR: Performer may also identify Section 5.0 as needed to return EGTS to standby. You may provide a copy of this section when performer seeks to obtain a copy.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>CAUTION: If EGTS is in service due to an accident signal initiation, and the charcoal filter banks have decay heat, an engineering evaluation must be performed before shutting down the EGTS system.</p>	
<p>NOTE If EGTS was Auto actuated, both Trains' shutdown sections must be performed prior to return to standby readiness.</p>	
<p><u>STEP 2:</u> [Step 1] ENSURE a ØA Cntmt Isolation signal is NOT present.</p> <p><u>STANDARD:</u> Performer determines that ØA Cntmt Isolation signal is NOT present by checking Master Isol Signal PNLs 1-XX-55-6C & 6D ØA light DARK.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.h

<p><u>STEP 3:</u> [Step 2] Momentarily PLACE 0-HS-65-23A, EGTS FAN & DISCH DMPR, in STOP (returns to A-AUTO).</p> <p><u>STANDARD:</u> Performer stops “A” Train EGTS Fan with 0-HS-65-23A and checks red light off and green light ON the associated handswitch.</p> <p style="text-align: center;">Step is critical to shutdown the running EGTS Fan.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: center;">CRITICAL STEP</p> <p style="text-align: center;">___ SAT</p> <p style="text-align: center;">___ UNSAT</p>
<p><u>STEP 4:</u> [Step 3] ENSURE 1-FCV-65-8, EGTS TR-A U1 SUCT DMPR, CLOSED.</p> <p><u>STANDARD:</u> Performer checks 1-HS-65-8 and verifies red light off and green light ON for the associated hand switch</p> <p style="text-align: center;">Step is critical to shutdown return ventilation lineup to normal following 10 hour run.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: center;">___ SAT</p> <p style="text-align: center;">___ UNSAT</p>
<p><u>STEP 5:</u> [Step 4] PERFORM the following: [a] CLOSE 1-FCO-65-10, EGTS TR-A U1 SUCT DMPR. [b] CLOSE 1-FCO-65-26, EGTS TO U1 SHIELD BLDG.</p> <p><u>STANDARD:</u> Performer closes 1-FCO-65-10 with 1-HS-65-10; performer closes 1-FCO-65-26 with 1-HS-65-26. Respective hand switches red lights are off and green lights are LIT.</p> <p style="text-align: center;">Step is critical to shutdown return ventilation lineup to normal following 10 hour run.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: center;">CRITICAL STEP</p> <p style="text-align: center;">___ SAT</p> <p style="text-align: center;">___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

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<u>STEP 6:</u> [STEP 5] IF Train A EGTS to be returned to STANDBY, THEN: PERFORM the following:				CRITICAL STEP ____ SAT ____ UNSAT
NOMENCLATURE	LOCATION	POSITION	UNID	
EGTS TR-A U1 SUCT DMPR	0-M-27B	A AUTO	1-HS-65-10	
EGTS TR-A U1 SHIELD BLDG	0-M-27B	A AUTO	1-HS-65-26	
<u>STANDARD:</u> Performer places 1-HS-65-10 and 1-HS-65-26 to the A AUTO position. Step is critical to return these hand switches to ES Standby alignment. <u>COMMENTS:</u>				
<u>STEP 7:</u> [Step 6] IF Train B EGTS is to be shutdown, THEN GO TO Section 7.2. <u>STANDARD:</u> Performer determines that this step does not apply and proceeds to the next step. <u>COMMENTS:</u>				____ SAT ____ UNSAT
<u>STEP 8:</u> [Step 7] IF EGTS is to be returned to STANDBY, THEN GO TO Section 5.0 to align EGTS for STANDBY. <u>STANDARD:</u> Performer goes to Section 5.0. <u>COMMENTS:</u>				____ SAT ____ UNSAT

WATTS BAR NUCLEAR PLANT

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NOTE TO EVALUATOR: The following performance steps are from section 5.1 of SOI-65.02.				
CAUTION IF EGTS is being returned to standby after auto actuation, THEN both Sections 7.1 and 7.2 must be performed prior to Standby Readiness alignment.				
<u>STEP 9:</u> [Step 1] ENSURE a ØA Cntmt Isolation signal is NOT present. <u>STANDARD:</u> Performer determines that ØA Cntmt Isolation signal is NOT present by checking Master Isol Signal PNLs 1-XX-55-6C & 6D ØA light DARK. NOTE TO EVALUATOR: This was previously performed in step 2 of JPM. <u>COMMENTS:</u>				____ SAT ____ UNSAT
<u>STEP 10:</u> [Step 2] ENSURE the following valves are CLOSED and PLACE 1-HS-65-81/86 in A AUTO .				CRITICAL STEP
NOMENCLATURE	LOCATION	POSITION	UNID	
U1 EGTS-ANN ΔP CNTLR A ISOL	0-M-27B	A AUTO	1-HS-65-81/86	
<u>STANDARD:</u> Performer locates 1-HS-65-81/88 and places in A-AUTO. Step is critical to establishing EGTS configuration for automatic start after a ØA Cntmt Isolation signal. <u>COMMENTS:</u>				____ SAT ____ UNSAT

WATTS BAR NUCLEAR PLANT

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<u>STEP 11:</u> [STEP 3] ENSURE breaker position for the following:				____ SAT ____ UNSAT
NOMENCLATURE	LOCATION	POSITION	UNID	
120VAC VITAL INST POWER BD 1-I				
EGTS TRAIN A AUX RELAYS 1-PCV-65-81/1-PCV-65-86	Bkr 38	OFF	1-BKR-235-1/38	
<u>STANDARD:</u> Performer contacts the Control Building AUO (or an AUO) and requests performance of Step 3. <div style="margin-left: 40px;"> **CUE: <i>When asked as the AUO, state “1-BKR-235-1/38 is in the OFF position”.</i> </div> <u>COMMENTS:</u>				
<u>STEP 12:</u> [Step 4] ENSURE the following valves are CLOSED and PLACE 1-HS-65-83/87 in A AUTO .				CRITICAL STEP
NOMENCLATURE	LOCATION	POSITION	UNID	
U1 EGTS-ANN ΔP CNTLR B ISOL	0-M-27B	A AUTO	1-HS-65-83/87	
<u>STANDARD:</u> Performer locates 1-HS-65-83/87 and places in A-AUTO. Step is critical to establishing EGTS configuration for automatic start after a ØA Cntmt Isolation signal.				____ SAT
<u>COMMENTS:</u>				____ UNSAT

STEP 13: **[STEP 5] ENSURE** breaker position for the following:

STANDARD: Performer contacts an AUO and requests performance of Step 5.

 SAT

___ UNSAT

STEP 14: **[STEP 6] PERFORM** the following:

STANDARD: Performer locates 0-HS-65-23A and ensures in A-AUTO.
Performer locates 0-HS-65-42A and ensures in A-AUTO.

SAT

 UNSAT

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STEP 15: [STEP 7] OPEN the following valves, and PLACE the handswitches in A AUTO:				CRITICAL STEP ____ SAT ____ UNSAT
NOMENCLATURE	LOCATION	POSITION	UNID	
U1 ANN VAC FANS SUCT	0-M-27B	OPEN, HS in A AUTO	0-HS-65-52	
U1 ANN VAC FANS SUCT	0-M-27B	OPEN, HS in A AUTO	0-HS-65-53	
<u>STANDARD:</u> Performer locates 0-HS-65-52 and ensures OPEN and in A-AUTO. Performer locates 0-HS-65-53 and ensures OPEN and in A-AUTO. Step is critical to establishing EGTS configuration for automatic start after a ØA Cntmt Isolation signal. <u>COMMENTS:</u>				
NOTES 1) The following step may be N/A'd if annulus vacuum fans are running. 2) If a phase A signal has been present, the next step may start one Ann Vac Fan due to low flow. Either fan may be selected first. Flow should be allowed to stabilize before the second fan is placed in auto to avoid two fans running. SOI-65.01 Section 5.0 should be referenced to ensure proper damper alignment and control after fan start.				

WATTS BAR NUCLEAR PLANT

B.1.h

STEP 16: **[STEP 8] PLACE** the following handswitches in STOP to break seal-in, **AND RETURN** to A-P AUTO:

NOMENCLATURE	LOCATION	POSITION	UNID
ANN VAC FAN 1A & SUCT FCO	0-M-27B	A P AUTO	1-HS-65-77A
ANN VAC FAN 1B & SUCT FCO	0-M-27B	A P AUTO	1-HS-65-74A

STANDARD: Performer verifies that annulus vacuum fans are running and N/As the step.

COMMENTS:

___ SAT

___ UNSAT

STEP 17: **[STEP 9] IF** an accident signal (\emptyset A) has occurred and **WHEN** Annulus ΔP is greater than 4.0 in. H₂O, **THEN:** (N/A if TACF 1-07-0002-065 is in effect.) **PERFORM** the following:

NOMENCLATURE	LOCATION	POSITION	UNID
PCV-65-81 and PCV-65-86, EGTS CNTMT ANNULUS DP RESET	A5W/737, 1-JB -292-4013-A, N. of GFFD Rm.	RESET	1-HS-65-80 and 1-HS-65-90
PCV-65-83 and PCV-65-87, EGTS CNTMT ANNULUS DP RESET	A4V/737, 1-JB-292-4015-B, S. of GFFD Rm.	RESET	1-HS-65-82 and 1-HS-65-97

STANDARD: Performer determines that no accident signal was present and N/As the step

COMMENTS:

___ SAT

___ UNSAT

CAUTION

PDIC-65-80 & 82 Setpoint Thumbwheels are adjusted by MIG only.

WATTS BAR NUCLEAR PLANT

B.1.h

<u>STEP 18:</u> [STEP 10] ENSURE the following controllers in AUTO :				CRITICAL STEP
NOMENCLATURE	LOCATION	POSITION	UNID	
EGTS-ANN ΔP CONTROL	0-M-27B	AUTO	1-PDIC-65-82	
EGTS-ANN ΔP CONTROL	0-M-27B	AUTO	1-PDIC -65-80	
<u>STANDARD:</u> Performer locates 1-PDIC-65-82 and ensures controller is in AUTO Performer locates 1-PDIC -65-80 and ensures controller is in AUTO Step is critical to establish EGTS standby alignment.				
<u>COMMENTS:</u>				____ SAT ____ UNSAT

WATTS BAR NUCLEAR PLANT

B.1.h

<u>STEP 19:</u> [STEP 11] ENSURE the following:				<div style="font-size: 1.2em;">___ SAT</div> <div style="font-size: 1.2em; margin-top: 20px;">___ UNSAT</div>
NOMENCLATURE	LOCATION	POSITION	UNID	
EGTS TR A DECAY COOLING	0-M-27B	CLOSE	0-HS-65-28B	
EGTS TR A DECAY COOLING	0-M-27B	CLOSE	0-HS-65-28A	
EGTS TR B DECAY COOLING	0-M-27B	CLOSE	0-HS-65-47A	
EGTS TR B DECAY COOLING	0-M-27B	CLOSE	0-HS-65-47B	
<u>STANDARD:</u> <div style="margin-left: 20px;"> _____ Performer locates 0-HS-65-28B and ensures that it is CLOSED. _____ Performer locates 0-HS-65-28A and ensures that it is CLOSED. _____ Performer locates 0-HS-65-47A and ensures that it is CLOSED. _____ Performer locates 0-HS-65-47B and ensures that it is CLOSED. </div>				
<u>COMMENTS:</u> <div style="height: 100px;"></div>				

WATTS BAR NUCLEAR PLANT

B.1.h

<u>STEP 20:</u> [STEP 12] PERFORM the following:				CRITICAL STEP
NOMENCLATURE	LOCATION	POSITION	UNID	
EGTS TR-A U1 SUCT DMPR	0-M-27B	A AUTO	1-HS-65-10	
EGTS TR-A U1 SUCT DMPR	0-M-27B	CLOSE	1-HS-65-8	
EGTS FAN B U1 SUCT DMPR	0-M-27B	CLOSE	1-HS-65-51	
EGTS TR-B U1 SUCT DMPR	0-M-27B	A AUTO	1-HS-65-30	
EGTS TO U1 SHIELD BLDG	0-M-27B	A AUTO	1-HS-65-26	
EGTS TO U1 SHIELD BLDG	0-M-27B	A AUTO	1-HS-65-27	
<u>STANDARD:</u> <div style="margin-left: 20px;"> _____ Performer locates 1-HS-65-10 and ensures that it is in A-AUTO. _____ Performer locates 1-HS-65-8 and ensures that it is CLOSED. _____ Performer locates 1-HS-65-51 and ensures that it is CLOSED. _____ Performer locates 1-HS-65-30 and ensures that it is in A-AUTO. _____ Performer locates 1-HS-65-26 and ensures that it is in A-AUTO. _____ Performer locates 1-HS-65-27 and ensures that it is in A-AUTO. Step is critical to establish EGTS standby alignment. </div> <u>COMMENTS:</u>				____ SAT ____ UNSAT
<u>STEP 21:</u> Notify the Unit Supervisor that "A" Train EGTS Fan is shutdown and realigned for standby readiness. <u>STANDARD:</u> Performer notifies the Unit Supervisor that "A" Train EGTS Fan is shutdown and realigned for standby readiness. <u>COMMENTS:</u>				____ SAT ____ UNSAT
END OF TASK				

TIME STOP: _____

WATTS BAR NUCLEAR PLANT

B.1.i

APPLICANT CUE SHEET **(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)**

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit 1 is at 100% power.
2. 0-SI-65-6-A "Emergency Gas Treatment System Train A 10-Hour Operation" performance in progress.
3. "A" Train EGTS Fan has been in service for 10 hours.
4. You are a support operator in the control room.

INITIATING CUES:

1. The Unit Supervisor directs you shutdown the "A" Train EGTS Fan per SOI-65.02 and return EGTS to Standby Alignment per the procedure.
2. You are to notify Unit Supervisor when you have completed the task.

WATTS BAR NUCLEAR PLANT

B.1.i

B.1.j Perform a boration of the RCS (LOCALLY) per AOI-34

WATTS BAR NUCLEAR PLANT

B.1.i

Task: Perform a Boration of the RCS (LOCALLY) per AOI-34

Alternate Path: 1-FCV-62-138 will not open locally, requiring manual valve 1-ISV-62-929 to be opened locally. This also requires use of control room flow indication, since the indication of flow via this path is not available locally.

Facility JPM #: 3-OT-JPMA020B Rev 4.

<u>K/A Rating(s):</u>	024AA1.04	[3.6/3.7]	024AK3.01	[4.1/4.4]
	024AA1.18	[3.7/3.6]	024AA1.20	[3.2/3.3]

Task Standard: Boration flow has been established on 1-FI-62-139 after opening 1-ISV-62-929 locally.

Preferred Evaluation Location:

Preferred Evaluation Method:

Simulator _____ In-Plant X

Perform _____ Simulate X

References: AOI-34, "IMMEDIATE BORATION", Rev. 23.

Task Number: AUO-062-AOI-27-001 APPLICABLE FOR: AUO/RO/SRO

10CFR55.45: 6, 8, 9, 10

Validation Time: 17 min. **Time Critical:** No

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Candidate: _____	_____	Time Start: _____
NAME	SSN/EIN	Time Finish: _____

Performance Rating: SAT ____ UNSAT ____ Performance Time ____

Examiner: _____ / _____

NAME	SIGNATURE	DATE
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COMMENTS

WATTS BAR NUCLEAR PLANT

B.1.i

WATTS BAR NUCLEAR PLANT

B.1.i

Tools/Equipment/Procedures Needed:

Hard Hat, Gloves, Safety Glasses, Hearing Protection, and Plant Approved Shoes.
Procedure AOI-34, "Immediate Boration".
ALARA considerations

NOTE: Start this JPM at the RAD WASTE DESK.

WATTS BAR NUCLEAR PLANT

B.1.i

READ TO OPERATOR

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. The Reactor has been tripped and AOI-34 is being performed due to an RCS cooldown resulting in temperature less than 547°F.
2. The normal makeup controls did not function correctly to establish boric acid flow.
3. Both Boric Acid pumps are operating in FAST speed.
4. 1-FCV-62-138 did not open from the Main Control Room.

INITIATING CUES:

1. You have been assigned to perform AOI-34, Step 6 actions to locally establish boric acid flow.
2. You are to notify the MCR operator when you have established boric acid flow.

WATTS BAR NUCLEAR PLANT

B.1.i

START TIME: _____

<p><u>STEP 1:</u> Obtain a copy of the appropriate instruction.</p> <p><u>STANDARD:</u></p> <p><i>EXAMINER'S CUE: After the method of obtaining an instruction properly has been demonstrated, the evaluator provides a copy of the instruction.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> [STEP 6.b. RNO] Locally ADJUST 1-FCV-62-138 to obtain required flow.</p> <p><u>STANDARD:</u> 1-FCV-138-B, EMERGENCY BORATION FLOW CONTROL, is located. The manual lever is pushed to the manual position (in direction of arrow) and the performer opens the valve by turning the hand wheel in the counter-clockwise direction. Step is critical to establish flow path.</p> <p><i>CUE: After performer indicates how to open the valve state "the motor operator hand wheel will NOT rotate."</i></p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.i

<p><u>STEP 3:</u> [STEP 6.c.] CHECK emergency borate flow on 1-FI-62-137A.</p> <p><u>STANDARD:</u> 1-FI-62-137A.has been located and checked and determination made that no flow has been established. Entry into c. RNO is therefore required. Step is critical to evaluating whether a flow path has been established.</p> <p>CUE: <i>When performer checks FI-62-137A, state “the indicator reads “0”.</i></p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p>Note: The following step is required since valve could not be operated electrically</p>	
<p><u>STEP 4:</u> [STEP 6c. RNO] Locally OPEN manual boration valve 1-ISV-62-929 [Blender Station/713].</p> <p><u>STANDARD:</u> 1-ISV-62-929 is opened by turning the hand wheel in the counter-clockwise direction. Step is critical because it initiates boration flow.</p> <p>CUE: <i>After performer indicates how to open the valve, state, “the hand wheel was rotated many turns in the counter-clockwise direction and has stopped.”</i></p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.i

<p><u>STEP 5:</u> [STEP 6.c. RNO continued] ENSURE BA flow control 1-FCV-62-140 OPEN.</p> <p><u>STANDARD:</u> Performer observes 1-FCV-62-140 and determines that the valve is OPEN. Step is critical because 1-FCV-62-140 is in series with 1-ISV-62-929 and must be in the OPEN position in order to establish boration flow.</p> <p><u>COMMENTS:</u></p>	<p style="text-align: center;">CRITICAL STEP</p> <p style="text-align: center;">___ SAT</p> <p style="text-align: center;">___ UNSAT</p>
<p><u>STEP 6:</u> [STEP c. RNO continued] ENSURE BA to Blender, 1-FI-62-139, indicating flow.</p> <p><u>STANDARD:</u> Performer contacts the MCR to determine if flow is indicated on 1-FI-62-139.</p> <p style="padding-left: 40px;">CUE: <i>When MCR is contacted, state "1-FI-62-139 is indicating 40 gpm".</i></p> <p><u>COMMENTS:</u></p>	<p style="text-align: center;">___ SAT</p> <p style="text-align: center;">___ UNSAT</p>

WATTS BAR NUCLEAR PLANT

B.1.i

STEP 15: **[7] IF** emergency boration flow established, **THEN GO TO**
Step 9.

STANDARD: Performer contacts MCR and reports that emergency boration
flow has been established.

CUE: *Acknowledge report as MCR operator using repeat back.*

COMMENTS:

END OF TASK

___ SAT

___ UNSAT

TIME STOP: _____

WATTS BAR NUCLEAR PLANT**B.1.j****CANDIDATE CUE SHEET****(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)****DIRECTION TO TRAINEE:**

I will explain the initial conditions, and state the task to be performed. All steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. The Reactor has been tripped and AOI-34 is being performed due to an RCS cooldown resulting in temperature less than 547°F.
2. The normal makeup controls did not function correctly to establish boric acid flow.
3. Both Boric Acid pumps are operating in FAST speed.
4. 1-FCV-62-138 did not open from the Main Control Room.

INITIATING CUES:

1. You have been assigned perform AOI-34, Step 6.b RNO actions to locally establish boric acid flow.
2. You are to notify the MCR operator when you have established boric acid flow.

WATTS BAR NUCLEAR PLANT

B.1.j

B.1.j Perform E-3, Attachment 3, Steamline Isolation (Local)

WATTS BAR NUCLEAR PLANT

B.1.j

Task: Perform E-3, Attachment 3, Steamline Isolation (Local)

Alternate Path: N/A

Facility JPM #: 3-OT-JPMA054 Rev 3

K/A Rating(s): 038 EA1.32 [4.6/4.7] 2.1.30 [3.9/3.4]

Task Standard: All nine steam line traps have been located. One steam trap has been isolated (all others are isolated the same way). Main steam supplies to each MFP turbine have been located and isolated.

Preferred Evaluation Location:

Preferred Evaluation Method:

Simulator _____ In-Plant X

Perform _____ Simulate X

References: E-3, Steam Generator Tube Rupture, Rev. 22

Task Number: RO-113-EOP-3-001

APPLICABLE FOR: AUO/RO/SRO

10CFR55.45: 5.6

Validation Time: 20 min. **Time Critical:** No

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Candidate: _____	_____	Time Start: _____
NAME	SSN/EIN	Time Finish: _____

Performance Rating: SAT _____ UNSAT _____ Performance Time _____

Examiner: _____ / _____

NAME	SIGNATURE	DATE
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COMMENTS

WATTS BAR NUCLEAR PLANT

B.1.j

Tools/Equipment/Procedures Needed:

Hard Hat, Safety Glasses, Flashlight, Hearing Protection, Gloves, and Plant Approved Shoes.

E-3, Attachment 3.

SAFETY Considerations:

High Temperature Pipes,
Ladder Safety,
ALARA considerations.

NOTE: Start this JPM in the MCR.

EVALUATOR NOTE: Provide copy of E-3, Attachment 3, “Steamline Isolation (Local)” to performer with candidate’s cue sheet.

WATTS BAR NUCLEAR PLANT

B.1.j

READ TO OPERATOR

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit 1 is in Mode 3 after a Steam Generator tube rupture on S/G # 2.
2. The Main Steam Isolation Valve (MSIV) on S/G # 2 has failed to close.
3. Main Steam line warming is NOT in progress.

INITIATING CUES:

1. The MCR operator has directed you to locally isolate the steam traps and Main Feed Pump Turbine on the main steam system by performing E-3, Attachment 3, Steamline Isolation (Local).
2. You are to notify the MCR operator when E-3, Attachment 3 has been completed.

WATTS BAR NUCLEAR PLANT

B.1.j

START TIME: _____

<p><u>STEP 1:</u> Obtain a copy of the procedure.</p> <p><u>STANDARD:</u> A copy of E-3, Attachment 3, Steamline Isolation (Local) is obtained.</p> <p>EXAMINER'S CUE: Provide E-3, Attachment 3, "Steamline Isolation (Local)" to the performer.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> [Step 1] COORDINATE steam trap isolation with RADPROT.</p> <p><u>STANDARD:</u> The performer contacts RADCON.</p> <p>CUE: As RADCON when contacted, state "that survey of steam lines has been made and is continuing periodically".</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>EXAMINER NOTE:</p> <p>the performer must locate all nine steam traps and demonstrate how to isolate one of them.</p> <p>The performer may use a flashlight to point out the hard to reach moisture traps.</p> <p>The performer must locate an "EOP ladder" for use in operating valves, located in hard to reach locations</p>	

WATTS BAR NUCLEAR PLANT

B.1.j

<u>STEP 3:</u> [STEP 2] CLOSE at least one valve listed for each steam moisture trap manifold: <div style="text-align: center;">[MAIN STEAM LINES]</div>					CRITICAL STEP ____ SAT ____ UNSAT
MSTR TRAP LEVEL SWITCH ###	MSTR TRAP ### STR ISOL	MSTR TRAP DRAIN ISOL	LOCATION		
200	1-ISV-1-916	OR	1-ISV-1-922	[T1M/708]	
<u>STANDARD:</u> The performer locates each moisture trap. Demonstration of the isolation of the trap associated with 1-LS-200 can be accomplished by either closing 1-ISV-1-916 or closing 1-ISV-1-922. (Rotating hand wheel clockwise). Step is critical to isolate flow path.					
CUE: After the performer has demonstrated how to close the valve, state "the hand wheel turns a few rotations and gets snug".					
<u>COMMENTS:</u> 					

WATTS BAR NUCLEAR PLANT

B.1.j

<u>STEP 8:</u> [STEP 2 continued] CLOSE at least one valve listed for each steam moisture trap manifold: [COMMON STEAM HEADER]					CRITICAL STEP
MSTR TRAP LEVEL SWITCH ###	MSTR TRAP ### STR ISOL	MSTR TRAP DRAIN ISOL	LOCATION		
206	1-ISV-1-966	OR	1-ISV-1-972	[T6J/708]	
<p><u>STANDARD:</u> The performer locates each moisture trap. Demonstration of the isolation of the trap associated with 1-LS-206 can be accomplished by either closing 1-ISV-1-966 or closing 1-ISV-1-972. (Rotating hand wheel clockwise). Step is critical to isolate flow path.</p> <p>CUE: After the performer has demonstrated how to close the valve, state that the hand wheel turns a few rotations and gets snug”.</p> <p><u>COMMENTS:</u></p>					__ SAT __ UNSAT
<u>STEP 9:</u> [STEP 2 continued] CLOSE at least one valve listed for each steam moisture trap manifold: [STEAM DUMP HEADER]					CRITICAL STEP
MSTR TRAP LEVEL SWITCH ###	MSTR TRAP ### STR ISOL	MSTR TRAP DRAIN ISOL	LOCATION		
207	1-ISV-1-976	OR	1-ISV-1-982	[T7H/708]	
<p><u>STANDARD:</u> The performer locates each moisture trap. Demonstration of the isolation of the trap associated with 1-LS-207 can be accomplished by either closing 1-ISV-1-976 or closing 1-ISV-1-982. (Rotating hand wheel clockwise). Step is critical to isolate flow path.</p> <p>CUE: After the performer has demonstrated how to close the valve, state that the hand wheel turns a few rotations and gets snug”.</p> <p><u>COMMENTS:</u></p>					__ SAT __ UNSAT

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<u>STEP 10:</u> [STEP 2 continued] CLOSE at least one valve listed for each steam moisture trap manifold: [STEAM DUMP HEADER]					CRITICAL STEP	
MSTR TRAP LEVEL SWITCH ###	MSTR TRAP ### STR ISOL	MSTR TRAP DRAIN ISOL	LOCATION			
208	1-ISV-1-986	OR	1-ISV-1-992	[T7G/708]		
<u>STANDARD:</u> The performer locates each moisture trap. Demonstration of the isolation of the trap associated with 1-LS-208 can be accomplished by either closing 1-ISV-1-986 or closing 1-ISV-1-992. (Rotating hand wheel clockwise). Step is critical to isolate flow path.						___ SAT
CUE: After the performer has demonstrated how to close the valve, state that the hand wheel turns a few rotations and gets snug”.						___ UNSAT
<u>COMMENTS:</u>						

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<u>STEP 11:</u> [STEP 2 continued] CLOSE at least one valve listed for each steam moisture trap manifold: [STEAM DUMP HEADER]						CRITICAL STEP
MSTR TRAP LEVEL SWITCH ###	MSTR TRAP ### STR ISOL	MSTR TRAP DRAIN ISOL	LOCATION			
209	1-ISV-1-996	OR	1-ISV-1-1002	[T7F/708]		
<p><u>STANDARD:</u> The performer locates each moisture trap. Demonstration of the isolation of the trap associated with 1-LS-209 can be accomplished by either closing 1-ISV-1-996 or closing 1-ISV-1-1002. (Rotating hand wheel clockwise). Step is critical to isolate flow path.</p> <p><u>CUE:</u> After the performer has demonstrated how to close the valve, state that the hand wheel turns a few rotations and gets snug”.</p> <p><u>COMMENTS:</u></p>						____ SAT ____ UNSAT
<u>STEP 12:</u> [STEP 3] CLOSE steam supply isolation and bypass for each Main Feed Pump Turbine:						CRITICAL STEP
MFPT	NOMENCLATURE	LOCATION	POSITION	UNID		
1A	MFPT 1A HP STEAM SUPPLY ISOL	T2J/729	CLOSED	1-ISV-1-611		
<p><u>STANDARD:</u> The performer locates valve and closes valve (rotating hand wheel clockwise). Step is critical to isolate flow path.</p> <p><u>CUE:</u> After the performer has demonstrated how to close the valve, state that the hand wheel turns many rotations and gets snug”.</p> <p><u>COMMENTS:</u></p>						____ SAT ____ UNSAT

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STEP 13: [STEP 3 continued] CLOSE steam supply isolation and bypass for each Main Feed Pump Turbine:					____SAT ____UNSAT
MFPT	NOMENCLATURE	LOCATION	POSITION	UNID	
1A	MFPT 1A HP STEAM SUPPLY ISOL BYPASS	T2J/729	CLOSED	1-IBV-1-613	
<u>STANDARD:</u> The performer locates valve and checks valve closed (rotating hand wheel clockwise). CUE: After the performer has demonstrated how to close the valve, state “the hand wheel does not move with clockwise force on hand wheel”. <u>COMMENTS:</u>					
STEP 14: [STEP 3 continued] CLOSE steam supply isolation and bypass for each Main Feed Pump Turbine:					CRITICAL STEP
MFPT	NOMENCLATURE	LOCATION	POSITION	UNID	
1B	MFPT 1B HP STEAM SUPPLY ISOL	T2H/729	CLOSED	1-ISV-1-612	
<u>STANDARD:</u> The performer locates valve and closes valve (rotating hand wheel clockwise). Step is critical to isolate flow path. CUE: After the performer has demonstrated how to close the valve, state that the hand wheel turns many rotations and gets snug”. <u>COMMENTS:</u>					

WATTS BAR NUCLEAR PLANT**B.1.k****CANDIDATE CUE SHEET****(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)****DIRECTION TO TRAINEE:**

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. Unit 1 is in Mode 3 after suffering a Steam Generator tube rupture on S/G # 2.
2. The Main Steam Isolation Valve (MSIV) on S/G # 2 has failed to close.
3. Main Steam line warming is NOT in progress.

INITIATING CUES:

1. The MCR operator has directed you to locally isolate the steam traps and MFPT on the main steam system by performing E-3, Attachment 3, Steamline Isolation (Local).
2. You are to notify the MCR operator when E-3, Attachment 3 has been completed.

WATTS BAR NUCLEAR PLANT

B.1.k

**B.1.k Place the CVCS Cation Demineralizer in Service
per SOI-62.04**

WATTS BAR NUCLEAR PLANT

B.1.k

Task: Place the CVCS Cation Demineralizer in Service per SOI-62.04

Alternate Path: N/A

Facility JPM #: 3-OT-JPMA041

K/A Rating(s): 004A1.07 [2.7/3.1]

Task Standard: The appropriate valves have been located and opened to place the CVCS cation bed in service per SOI-62.04.

Preferred Evaluation Location:

Preferred Evaluation Method:

Simulator ____ In-Plant X ____

Perform X ____ Simulate ____

References: SOI-62.04, CVCS PURIFICATION SYSTEM, Rev. 53

Task Number: AUO-062-AOI-028-001 APPLICABLE FOR: RO/SRO

10CFR55.45: 8, 9

Validation Time: 20 min. **Time Critical:** No

=====

Applicant: _____ **Time Start:** _____
NAME SSN **Time Finish:** _____

Performance Rating: SAT ____ UNSAT ____ **Performance Time** ____

Examiner: _____ **SIGNATURE** / **DATE**
NAME

=====

COMMENTS

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Tools/Equipment/Procedures Needed:

Hard Hat, Safety Glasses, Hearing Protection, Gloves and Plant Approved Shoes
Copy of SOI-62.04, CVCS PURIFICATION SYSTEM, Rev. 53, Section 8.2 and
Attachment 1 with data entered.

SAFETY CONSIDERATIONS:

Hot pipes, high noise, and heat.
Radiation levels.
Ladder use to reach valve handwheels.

WATTS BAR NUCLEAR PLANT

B.1.k

READ TO OPERATOR

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. The Unit is at 100% power.
2. Letdown orifice valve 1-FCV-62-74 is open and letdown flow (as indicated in MCR) is 75 gpm.
3. RCS boron concentration is 870 ppm.
4. Chemistry has requested that cation bed be placed in service for 53 minutes.
5. The Cation bed has been filled and vented.
6. SOI-62.04, Attachment 1, Resin Status Sheet indicates that the Cation Bed is at the same boron concentration of the RCS.

INITIATING CUES:

1. The MCR operator has directed you to place the CVCS Cation Bed in service per procedure.
2. You are to notify the MCR when the CVCS Cation Bed is in service.

WATTS BAR NUCLEAR PLANT

B.1.k

START TIME: _____

<p><u>STEP 1:</u> Obtain a copy of the procedure.</p> <p><u>STANDARD:</u> Performer has obtained a copy of SOI-62.04, Section 8.2</p> <p>EXAMINER'S CUE: <i>After the performer has demonstrated the method of obtaining the correct instruction, the evaluator can provide a copy of the instruction.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> [1] ENSURE CB FILLED and VENTED per Section 8.1.</p> <p><u>STANDARD:</u> Performer determines the Cation Bed is filled and vented per the INITIAL CONDITIONS provided.</p> <p>EXAMINER'S CUE: <i>If asked, inform the performer that Section 8.1 is complete.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>Due to the location of one of the valve handwheels that will be operated, the performer may require a ladder to reach the valve handwheel. If required, a general use ladder, NOT an EOP ladder, must be located by the operator.</p>	

*****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.***

WATTS BAR NUCLEAR PLANT

B.1.k

STEP 3: [2] PERFORM the following:				
NOMENCLATURE	LOCATION	POSITION	UNID	
CVCS CATION DEMIN BED INLET	A3T/713	CLOSED	1-ISV-62-915	
CVCS CATION DEMIN BED OUTLET	A3T/713	CLOSED	1-ISV-62-916	
CVCS CATION DEMIN BED VENT	A3T/713	CLOSED	1-VTV-62-917	
CVCS CATION DEMIN BED RESIN FILL	A5U/737	CLOSED	1-ISV-62-918	
CVCS CATION DEMIN BED RESIN DISCH	A7U/713	CLOSED	1-ISV-62-919	
CVCS CATION DEMIN BED DRAIN	A3T/713	CLOSED	1-DRV-62-920	
CVCS CATION BED FLUSH	A3T/713	CLOSED	1-FLV-62-921	
<p><u>STANDARD:</u> The above listed valves have been located and checked closed (clockwise to close).</p> <p>EVALUATOR CUE: <i>If the performer attempts to move the handwheel clockwise then counterclockwise, state" the handwheel will not rotate".</i></p> <p><u>COMMENTS:</u></p>				<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 4:</u> [3] ENSURE 1-ISV-62-922, CVCS MIXED BED DEMIN OUTLET [A3T/713], is OPEN.</p> <p><u>STANDARD:</u> 1-ISV-62-922 is verified to be open.</p> <p>EVALUATOR CUE: <i>If the performer attempts to move the handwheel clockwise then counterclockwise, state" the handwheel will not rotate".</i></p> <p><u>COMMENTS:</u></p>				<p>___ SAT</p> <p>___ UNSAT</p>

****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.**

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<p><u>STEP 5:</u> [4] REVIEW Attachment 1, Resin Status Sheet to ensure CB is FILLED and BORATED.</p> <p><u>STANDARD:</u> Performer determines that the CB is filled and borated (given in initial conditions) and proceeds to the next step.</p> <p><i>EVALUATOR CUE: If asked, state “the Resin Status Sheet indicates the CB is filled and vented and borated to the 870 ppm, the same concentration as the RCS)”.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 6:</u> [5] NOTIFY SRO of intent to place CB in service, and its current boron concentration as recorded on Attachment 1, Resin Status Sheet.</p> <p><u>STANDARD:</u> The performer contacts SRO and notifies them of intent to place cation Bed in service, advises them of boron concentration recorded on Attachment 1.</p> <p><i>NOTE TO EVALUATOR: Task assignment sheet provides the boron concentration derived from Attachment 1. The Rad Waste desk contains the current Attachment 1 for cation bed which will be different than task assignment sheet.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>CAUTION Cation Bed may need to be flushed to minimize reactivity effects if cation bed boron concentration varies more than 20 ppm from that of the RCS boron concentration or if a new cation bed is being placed in service.</p>	

*****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.***

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<p><u>STEP 7:</u> [6] OPEN 1-ISV-62-915, CVCS CATION DEMIN BED INLET.</p> <p><u>STANDARD:</u> 1-ISV-62-915 has been located and opened (turned in the counter-clockwise direction).</p> <p>EVALUATOR CUE: <i>After valve hand wheel is moved in the counterclockwise direction, state “the hand wheel rotates several turns and stops.”</i></p> <p style="text-align: center;"><i>If indicator checked, indicate it points to the open position.</i></p> <p><i>Step is critical to establish flow through the cation demineralizer.</i></p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 8:</u> [7] IF flush is desired for cation bed, THEN GO TO Section 8.7, Flushing Cation Bed to Adjust Boron Prior to Use.</p> <p><u>STANDARD:</u> Performer determines that flush is not required (per EVALUATOR CUE) and N/As step.</p> <p>EVALUATOR CUE: <i>State that flush is not necessary, nor desired at this time.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p>CAUTION Maximum Cation Bed flow is 75 gpm. May be read locally at 1-FI-62-113 (Panel 1-L-57 at A3T/713).</p>	

*****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.***

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<p><u>STEP 9:</u> [8] SLOWLY OPEN 1-ISV-62-916, CVCS CATION DEMIN BED OUTLET.</p> <p><u>STANDARD:</u> 1-ISV-62-916 has been located and opened slowly (turned in the counter-clockwise direction).</p> <p><i>EVALUATOR CUE:</i> <i>After valve hand wheel is moved in the counter-clockwise direction, state that the hand wheel rotates several turns and stops.</i></p> <p style="padding-left: 40px;"><i>If indicator checked, indicate it points to the open position.</i></p> <p><i>Step is critical to establish flow through the cation demineralizer.</i></p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 10:</u> [9] SLOWLY THROTTLE CLOSE 1-ISV-62-922, CVCS MIXED BED DEMIN OUTLET, until desired cation bed flow rate achieved.</p> <p><u>STANDARD:</u> 1-ISV-62-922 has been located and closed slowly (turned in the clockwise direction).</p> <p><i>EVALUATOR CUE:</i> <i>After valve hand wheel is moved in the clockwise direction, state “the hand wheel rotates several turns and stops.” If indicator checked, indicate it points to the closed position.</i></p> <p><i>EVALUATOR CUE:</i> <i>When 1 FI-62-113 is checked by the local indicator OR the CRT Monitor located near the demineralizer control valves, state it indicates 75 gpm. IF the MCR is contacted, state the letdown flow is 75 gpm.</i></p> <p><i>Step is critical to establish flow through the cation demineralizer.</i></p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

*****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.***

WATTS BAR NUCLEAR PLANT

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<p><u>STEP 11:</u> [10] RECORD Time, Date, and Flowrate when CB was placed in service on Attachment 1, Resin Status Sheet.</p> <p style="padding-left: 40px;"><i>CUE: Another operator will enter the information on Attachment 1, Resin Status Sheet.</i></p> <p><u>STANDARD:</u> The performer addresses entry of the Date, Time and Flow rate that the Cation Bed was placed in service is recorded on Attachment 1.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 12:</u> [11] NOTIFY Chemistry of Time, Date, and Flowrate when CB was placed in service.</p> <p><u>STANDARD:</u> The Performer notifies Chemistry of Time, Date, and Flowrate when CB was placed in service</p> <p><u>COMMENTS:</u></p> <p style="text-align: center; margin-top: 20px;">END OF TASK</p>	<p>___ SAT</p> <p>___ UNSAT</p>

STOP TIME _____

*****Italicized Cues Are To Be Used Only If JPM Performance Is Being Simulated.***

**APPLICANT CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)**

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

1. The Unit is at 100% power.
2. Letdown orifice valve 1-FCV-62-74 is open and letdown flow (as indicated in MCR) is 75 gpm.
3. RCS boron concentration is 870 ppm.
4. Chemistry has requested that cation bed be placed in service for 53 minutes.
5. The Cation bed has been filled and vented.
6. SOI-62.04, Attachment 1, Resin Status Sheet indicates that the Cation Bed is at the same boron concentration of the RCS.

INITIATING CUES:

1. The MCR operator has directed you to place the CVCS Cation Bed in service per procedure.
2. You are to notify the MCR when the CVCS Cation Bed is in service.