Appendix C **JOB PERFORMANCE MEASURE** Form ES-C-1 (R8, S1)

Facility: **BVPS Unit 1** Task No: 0062-001-01-013

Task Title: Start [1RC-P-1A], Reactor Coolant Pump JPM No: 2002 NRC S1

K/A Reference: 003 A2.02 (3.7/3.9) 003 A3.04 3.6/3.6) 003 A4.06 (2.9/2.9

Examinee: _____ NRC Examiner: _____

Facility Evaluator: N/A Date: _____

Method of Testing:

Simulated Performance: _____ Actual Performance __X__

Classroom: _____ Simulator: __X__ Plant: _____

READ TO THE EXAMINEE

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

Initial Conditions:	The plant is in Mode 3 preparing to enter Mode 2 to perform a reactor startup. Currently 1RC-P-1B and 1RC-P-1C are in operation. Another Operator has begun 1OM-6.4.A, Reactor Coolant Pump Startup procedure completing all steps through IV.A.13. All systems and components are operating in their normal alignment to support pump operation.
Task Standard:	1RC-P-1A is started and then tripped on high vibration in accordance with 1OM-6.4.A and 1OM-53C.4.1.6.8.
Required Materials:	None
General References:	1OM-6.4.A, Reactor Coolant Pump Startup, Rev. 20 1OM-6.4.ACR, Reactor Cool Pump Vibration High High, Rev. 3 1OM-53C.4.1.6.8, Abnormal RCP Operation, Rev. 0
Handouts:	1OM-6.4.A, Rev. 20 (marked up copy) 1OM-6.4.ACR, Rev. 3 1OM-53C.4.1.6.8, Rev. 0
Tools:	Stopwatch
Initiating Cue:	The Unit Supervisor directs you to start 1RC-P-1A beginning at Step IV.A.14 of 1OM-6.4.A, Reactor Coolant Pump Startup.
Time Critical Task:	NO
Validation Time:	20 minutes

Simulator Setup Information

Setup:	Initialize IC-85.

PERFORMANCE INFORMATION

Start [1RC-P-1A], Reactor Coolant Pump 2002 NRC S1

(Denote critical steps with an asterisk) **Start Time:** _____

Performance Step 1: (Step IV.A.14.a) If starting the first RCP in a non-isolated loop AND the cold leg temperature of any non-isolated RCS loop is ≤ 343°F, verify the highest Reactor Coolant Loop to Steam Generator ΔT is < 50°F within 10 minutes of starting a reactor coolant pump.

Standard: Candidate N/A's step. (1RC-P-1B and 1C already running.)

Comments:

---

* **Performance Step 2:** (Step IV.A.14.b) Place control switch for [1RC-P-1A] to START and Start a stopwatch.

Standard: Candidate locates pump control switch.

- Places control switch to START position.
- Starts the stopwatch.

Comments:

Performance Step 3: (Step IV.A.14.c) Observe the red running light is ON for oil lift pump.

Standard: Candidate locates pump indicating lights.

- Verifies red light is ON.

Comments:

Performance Step 4: (Step IV.A.14.d)
Verify the RCP starts approximately 2 minutes after the Bearing Lift Oil Pump starts.

Standard:
Candidate locates pump indicating lights.
- Verifies pump starts after approximately 2 minutes using a stopwatch.
- Verifies red light is ON.

Comments:

Performance Step 5: (Step IV.A.14.e)
Verify on [1RC-P-1A Amps] Reactor Coolant Pumps, the RCP starting amps drop off 10 to 30 seconds after the RCP breaker closes.

Standard:
Candidate locates 1RC-P-1A ammeter.
- Verifies starting amps drop off within 10 - 30 seconds.

Comments:

Performance Step 6: (Step IV.A.14.f)
Verify the bearing lift oil pump stops between 47.5 and 52.5 seconds. after the RCP starts as indicated by the green light ON for the oil lift pump.

Standard:
Candidate locates pump indicating lights.
- Verifies green light is ON within 47.5 - 52.5 seconds after RCP start using a stopwatch.

Comments:

Note: The following steps represent the alternate path for this JPM.

Performance Step 7: Respond to RCP high vibration alarms.

Standard: Candidate identifies high vibration condition from annunciators [A3-126] and [A3-127].

Evaluator Note: After identifying the vibration alarms, provide the Candidate with a copy of 1OM-6.4.ACR.

Evaluator Note: If asked, inform the Candidate that the alarm is due to a valid condition.

Comments:

Evaluator Note: Provide the Candidate with a copy of 1OM-53C.4.1.6.8.

Performance Step 8: (Step 2.d) Both of the following are met: ([VIB-MON-1], RCP Vibration Monitor).

Standard: Candidate verifies high vibration on 1RC-P-1A.

- Green LED is ON.
- Shaft vibration > 20 mils or frame vibration > 5 mils.

Evaluator Note: If necessary, inform the Candidate that another Operator will monitor the control boards while checking vibration readings.

Comments:

Performance Step 9: Trip the reactor.
(Step 2.d.1 RNO)

Standard: No action required. (The plant is not in Mode 1 or 2 - JPM Initial Conditions).

Comments:

Performance Step 10: GO TO E-0, "Reactor Trip or Safety Injection".
(Step 2.d.2 RNO)

Standard: No action required.

Evaluator Note: Inform the Candidate that E-0 Immediate Actions are **NOT** required to be performed.

Comments:

---

* **Performance Step 11:** Stop the affected RCP(s).
(Step 2.d.3 RNO)

Standard: Candidate places 1RC-P-1A control switch to Stop.

- Verifies green light is ON and red light is OFF.

Comments:

Performance Step 12: Close Przr spray valve for affected RCP(s).
(Step 2.d.3 RNO)

Standard: No action required. (Valve is not open).

Comments:

Terminating Cue: When the Candidate stops the RCP, the evaluation for this JPM is complete.

Stop Time: _____

VERIFICATION OF COMPLETION

Start [1RC-P-1A], Reactor Coolant Pump 2002 NRC S1

JPM No.: 2002 NRC S1

Examinee's Name:

Examiner's Name:

Date performed:

Facility Evaluator:

Number of attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT ____

Examiner's signature and date: _____ _____

INITIAL CONDITIONS: The plant is in Mode 3 preparing to enter Mode 2 to perform a reactor startup. Currently 1RC-P-1B and 1RC-P-1C are in operation. Another Operator has begun 1OM-6.4.A, Reactor Coolant Pump Startup procedure completing all steps through IV.A.13. All systems and components are operating in their normal alignment to support pump operation.

INITIATING CUE: The Unit Supervisor directs you to start 1RC-P-1A beginning at Step IV.A.14 of 1OM-6.4.A, Reactor Coolant Pump Startup.

Appendix C **JOB PERFORMANCE MEASURE** Form ES-C-1 (R8, S1)

Facility: **BVPS Unit 1** Task No: 0071-038-01-013

Task Title: Emergency Borate The RCS JPM No: 2002 NRC S2

K/A Reference: 004 A2.14 (3.8/3.9) 024 AA1.17 (3.9/3.9)
024 AA1.18 (3.7/3.6) 024 AA2.01 (3.8/4.1)

Examinee: _____ NRC Examiner: _____

Facility Evaluator: N/A Date: _____

Method of Testing:

Simulated Performance: _____ Actual Performance __X__

Classroom: _____ Simulator: __X__ Plant: _____

READ TO THE EXAMINEE

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

Initial Conditions: The plant is in Mode 1 at 77% power with all systems in their normal operating alignment. An event has occurred that caused [A4-124], Rod Control Bank "D" Low-Low to alarm. This is a valid alarm.

Task Standard: Emergency boration flow established at greater than 105 gpm in accordance with 1OM-7.4.S.

Required Materials: None

General References: 1OM-7.4.S, Emergency Boration, Rev. 4

Handouts: 1OM-7.4.S, Rev. 4

Tools: None

Initiating Cue: The Unit Supervisor directs you to take actions to emergency borate the RCS using 1OM-7.4.S.

Time Critical Task: NO

Validation Time: 20 minutes

Simulator Setup Information

Setup:	Initialize IC-85. Override MOV-1CH-350 to fail closed, green light ON, red light OFF.

PERFORMANCE INFORMATION

Emergency Borate The RCS 2002 NRC S2

(Denote critical steps with an asterisk) **Start Time:** _____

Performance Step 1: (Step IV.A.1) Ensure at least one [1CH-P-1A (1B) (1C)], Charging Pump High Head Safety Injection, is running.

Standard: Candidate locates pump controls and verifies one pump running.

- Verifies red light is ON and white light is OFF.

Comments:

---

* **Performance Step 2:** (Step IV.A.2) Place Emergency Boration Isol Vlv [MOV-1CH-350] control switch to OPEN.

Standard: Candidate locates valve control switch and places to open position.

- Verifies red light is ON and green light is OFF.

Candidate determines that [MOV-1CH-350] has **NOT** opened.

Comments:

Evaluator Note: This step may be omitted.

Performance Step 3: (Step IV.A.3) Place the online Boric Acid 2A (2B) Transfer Pump [1CH-P-2A (2B)] control switch to FAST.

Standard: Candidate locates pump control switch and places in fast speed.

- Verifies pump red light is ON.

Comments:

Evaluator Note: This step may be omitted.

Performance Step 4: (Step IV.A.4) Verify [FI-1CH-110], Emergency Boration flow greater than or equal to to 30 gpm.

Standard: Candidate locates flow indicator.

- Verifies "0" flow is indicated on FI-1CH-110.

Comments:

Note: The following steps begin the alternate path section of this JPM.

Evaluator Note: If the Candidate attempts to have [MOV-1CH-350] opened locally, or align the blender to the charging pump suction, then **CUE** that the Shift Manager desires to use the RWST flowpath.

* **Performance Step 5:** (Step IV.A.5.a.1) Align the RWST to charging pump suction.

- Open [MOV-1CH-115B] or [MOV-1CH-115D], RWST Disch to Chg Pumps Suct Vlv.

Standard: Candidate locates valve control switches and places at least one control switch to the open position.

- Verifies red light is ON.

Comments:

---

* **Performance Step 6:** (Step IV.A.5.a.2)

Align the RWST to charging pump suction.
- Close [MOV-1CH-115C] or [MOV-1CH-115E], VCT Outlet to Chg Pumps Suct Vlv.

Standard:

Candidate locates valve control switches and places at least one control switch to the close position.
- Verifies green light is ON.

Comments:

---

* **Performance Step 7:** (Step IV.A.6)

Place [FCV-1CH-122], Chg Flow to Regen Hx Inlet Control Vlv controller to MAN.

Standard:

Candidate locates controller and depresses pushbutton.

Comments:

---

* **Performance Step 8:** (Step IV.A.6)

If RWST is source of boric acid, establish ≥ 105 gpm charging flow as indicated on [FI-1CH-122A], Charging Pump Flow.

Standard:

Candidate locates flow indicator.
- Verifies ≥ 105 gpm indicated on FI-1CH-122A.

Comments:

Performance Step 9: (Step IV.A.7) Verify [PI-1RC-455, 456 and 457], PRZR Press indicate < 2335 psig.

Standard: Candidate locates pressure indicators.

- Verifies < 2335 psig on PI-1RC-455, 456 and 457.

Comments:

Performance Step 10: (Step IV.A.8) If the VCT level increases to the divert setpoint as indicated of [LI-1CH-115], Volume Control Tank Level, verify that the letdown flow is diverted to the Boron Recovery System.

Standard: Candidate monitors VCT level indicator.

- Verifies valves position to divert as necessary.

Comments:

Performance Step 11: (Step IV.A.9) If at power, verify Tavg returns to normal and the control bank returns to the maneuvering band in response to the boration.

Standard: Candidate locates control rod height on DRPI or step counters.

- Verifies control rods are withdrawing or manually withdraws control rods.

Comments:

Terminating Cue: When the Candidate verifies that the boric acid flow is established, or the evaluation for this JPM is complete.

Stop Time: _____

VERIFICATION OF COMPLETION

JPM No.: 2002 NRC S2

Examinee's Name:

Examiner's Name:

Date performed:

Facility Evaluator:

Number of attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT ____

Examiner's signature and date: _____ _____

INITIAL CONDITIONS: The plant is in Mode 1 at 77% power with all systems in their normal operating alignment. An event has occurred that caused [A4-124], Rod Control Bank "D" Low-Low to alarm. This is a valid alarm.

INITIATING CUE: The Unit Supervisor directs you to take actions to emergency borate the RCS using 1OM-7.4.S.

Appendix C **JOB PERFORMANCE MEASURE** Form ES-C-1 (R8, S1)

Facility: **BVPS Unit 1** Task No: 0111-019-01-013

Task Title: Transfer To Hot Leg Recirculation JPM No: 2002 NRC S3

K/A Reference: 2.1.20 (4.3/4.2) 006 A4.01 (4.1/3.9)
006 A4.05 (3.9/3.8) 006 A4.02 (4.0/3.8)

Examinee: _____ NRC Examiner: _____

Facility Evaluator: N/A Date: _____

Method of Testing:

Simulated Performance: _____ Actual Performance __X__

Classroom: _____ Simulator: __X__ Plant: _____

READ TO THE EXAMINEE

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

Initial Conditions:	Approximately 8 hours have passed since the plant experienced a LOCA. The crew has performed all required EOP actions. The plant is in cold leg recirculation. The decision has been made to transfer to hot leg recirculation.
Task Standard:	Safety Injection System aligned for hot leg recirculation in accordance with 1OM-53A.1.ES-1.4.
Required Materials:	Shorting Bars
General References:	1OM-53A.1.ES-1.4, Transfer To Simultaneous Cold Leg and Hot Leg Recirculation, Issue 1C, Rev. 1
Handouts:	1OM-53A.1.ES-1.4, Issue 1C, Rev. 1
Tools:	None
Initiating Cue:	The Unit Supervisor directs you to align the plant for hot leg recirculation in accordance with EOP ES-1.4.
Time Critical Task:	NO
Validation Time:	20 minutes

Simulator Setup Information

Setup:	Initialize IC-87.

PERFORMANCE INFORMATION

(Denote critical steps with an asterisk) **Start Time:** _____

Performance Step 1: (Step 1.a) If not already performed, Verify valve lineup for cold leg recirculation.

Standard: No action required. (Plant is in cold leg recirculation per JPM Initial Conditions).

Comments:

Performance Step 2: (Step 1.b.1) Check the following:
- Charging/HHSI Pumps - TWO RUNNING.

Standard: Candidate locates pump controls for both pumps.
- Verifies red light is ON for both pumps.

Comments:

Performance Step 3: (Step 1.b.2) Check the following:
- LHSI Pumps - AT LEAST ONE RUNNING.

Standard: Candidate locates pump controls for both pumps.
- Verifies red light is ON for at least one pump.

Comments:

Evaluator Note: Provide Candidate with shorting bars.

* **Performance Step 4:** (Step 1.c) Insert shorting bar into [MOV-1SI-869B], HHSI To Hot Legs Isol Vlv jack.

Standard: Candidate locates jack and installs shorting bar.

Comments:

---

* **Performance Step 5:** (Step 1.d) Initiate opening [MOV-1SI-869B], HHSI To Hot Legs Isol Vlv.

Standard: Candidate locates valve control switch and places to the open position.

- Verifies red light is ON and green light is OFF.

Comments:

---

* **Performance Step 6:** (Step 1.e) Immediately close [MOV-1SI-867A, 867B], BIT Inlet Isol Vlvs.

Standard: Candidate locates valve control switches and places to the close position.

- Verifies red lights are OFF and green lights are ON.

Comments:

Performance Step 7: (Step 1.f) Verify [FI-1SI-943], Hi Head SI To BIT Flow.

Standard: Candidate locates flow indicator.

- Verifies flow.

Comments:

---

* **Performance Step 8:** (Step 1.g) Insert shorting bar into [MOV-1SI-869A], HHSI To Hot Legs Isol Vlv jack.

Standard: Candidate locates jack and installs shorting bar.

Comments:

---

* **Performance Step 9:** (Step 1.h) Initiate opening [MOV-1SI-869A], HHSI To Hot Legs Isol Vlv.

Standard: Candidate locates valve control switch and places to the open position.

- Verifies red light is ON and green light is OFF.

Comments:

---

* **Performance Step 10:** Immediately close [MOV-1SI-836], HHSI To RCL Cold Legs Isol Vlv. (Step 1.i)

Standard: Candidate locates valve control switch and places to the close position.

- Verifies red light is OFF and green light is ON.

Comments:

Performance Step 11: Verify HHSI Hot Leg Hdr Flow on [FI-1SI-940] - INDICATED. (Step 1.j)

Standard: Candidate locates flow indicator.

- Verifies flow.

Comments:

Performance Step 12: Remove both shorting bars from jacks. (Step 1.k)

Standard: Candidate locates and removes shorting bars.

Comments:

Terminating Cue: When the Candidate verifies HHSI flow is indicated, the evaluation for this JPM is complete.

Stop Time: _____

VERIFICATION OF COMPLETION

JPM No.: 2002 NRC S3

Examinee's Name:

Examiner's Name:

Date performed:

Facility Evaluator:

Number of attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT ____

Examiner's signature and date: _____ _____

INITIAL CONDITIONS: Approximately 8 hours have passed since the plant experienced a LOCA. The crew has performed all required EOP actions. The plant is in cold leg recirculation. The decision has been made to transfer to hot leg recirculation.

INITIATING CUE: The Unit Supervisor directs you to align the plant for hot leg recirculation in accordance with EOP ES-1.4.

Appendix C **JOB PERFORMANCE MEASURE** Form ES-C-1 (R8, S1)

Facility: **BVPS Unit 1** Task No: 0121-008-04-011

Task Title: Calculate And Restore Containment Air Partial Pressure JPM No: 2002 NRC S4

K/A Reference: 103 A1.01 (3.8/3.9)

Examinee: _____ NRC Examiner: _____

Facility Evaluator: N/A Date: _____

Method of Testing:

Simulated Performance: _____ Actual Performance __X__

Classroom: _____ Simulator: __X__ Plant: _____

READ TO THE EXAMINEE

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

Initial Conditions:	The plant is in Mode 3. The IPC is out of service. The Ohio River water temperature is 73°F. Dewpoint temperatures are 54.5°F, 54.4°F, 54.8°F and 54.7°F respectively for computer points T0635A, T0655A, T0661A and T0675A.
Task Standard:	Containment air partial pressure calculated, compared to Technical Specifications and actions initiated to restore to within limits.
Required Materials:	Calculator and Steam Tables
General References:	1OM-54.3.L5, Surveillance Verification Log, Rev. 31 Technical Specifications 3.6.1.4 and Figure 3.6-1 1OM-12.4.E, Maintaining the Containment Vacuum, Rev. 2
Handouts:	1OM-54.3.L5, Rev. 31 Technical Specifications LCO 3.6.1.4 and Figure 3.6-1 1OM-12.4.E, Rev. 2
Tools:	None
Initiating Cue:	The Unit Supervisor directs you to calculate containment air partial pressure and adjust as necessary to satisfy Technical Specification LCO 3.6.1.4.
Time Critical Task:	NO
Validation Time:	20 minutes

Simulator Setup Information

Setup:	Initialize IC-85.

PERFORMANCE INFORMATION

Calculate And Restore Containment Air Partial Pressure 2002 NRC S4

(Denote critical steps with an asterisk) **Start Time:** _____

Performance Step 1: Log Containment Dewpoint Temperatures.
(Item 119.a)

Standard: Candidate records temperatures (from JPM Initial Conditions).

Comments:

---

* **Performance Step 2:** Average of temperatures.
(Item 119.b)

Standard: Candidate calculates average dewpoint temperature.

Evaluator Note: Average dewpoint temperature equals 54.6°F.

Comments:

Performance Step 3: Log Containment Pressure.
(Item 119.c)

Standard: Candidate locates [PI-1CV-101A1, 101B1] and records readings.

Evaluator Note: Containment pressure readings are approximately 10.2 psia.

Comments:

---

* **Performance Step 4:** Average of pressures.
(Item 119.d)

Standard: Candidate calculates average total air pressure.

Evaluator Note: Average pressure equals 10.1 - 10.3 psia.

Comments:

---

* **Performance Step 5:** Determine saturation pressure for Item 119.b from the saturate steam tables.
(Item 119.e)

Standard: Candidate determines saturation pressure corresponding to dewpoint temperature from the steam tables.

Evaluator Note: Saturation pressure equals 0.21 psia.

Comments:

---

* **Performance Step 6:** Calculate Air Partial Pressure (Item 119.d - Item 119.e).
(Item 119.f)

Standard: Candidate subtracts saturation pressure from average containment total air pressure to determine calculated air partial pressure.

Evaluator Note: Calculated air partial pressure equals 9.89 - 10.09 psia.

Comments:

---

* **Performance Step 7:** Determine MAO from Technical Specification Figure 3.6-1.

Standard: Candidate refers to Figure 3.6-1 and determines MAO based on river water temperature of 73°F.

Evaluator Note: MAO equals approximately 9.85 psia.

Comments:

---

* **Performance Step 8:** (Item 119.g) Verify calculated Air Partial Pressure is > 8.9 psia and < MAO.

Standard: Candidate determines that air partial pressure is **NOT** within limits (greater than MAO).

Candidate reports air partial pressure is above Technical Specifications limit.

CUE: As Unit Supervisor, direct the Candidate to lower containment pressure using 1OM-12.4.E.

Evaluator Note: Provide the Candidate with a copy of 1OM-12.4.E and inform that the Initial Conditions are met.

Comments:

---

* **Performance Step 9:** (Step IV.A.1) Start [1CV-P-1A (1B)], Cnmt Vac 1A (1B) Pump.

Standard: Candidate locates pump control switch and places in Start position.

- Verifies red light is ON.

Evaluator Note: If asked, direct Candidate to start [1CV-P-1A].

Comments:

Performance Step 10: (Step IV.A.2) Verify open [TV-1CV-150B], 1A Cnmt Vac Pump Cnmt Isol Vlv.

Standard: Candidate locates valve indicating lights.

- Verifies red light is ON and green light is OFF.

Comments:

Performance Step 11: (Step IV.A.3.a) Verify air is being discharged by the following:

- Verify movement of [FTO-CV101], Cont Vac Integrated Flow.

Standard: Candidate verifies air discharge through movement of FTO-CV101.

Evaluator Note: No specific amount of flow is required.

Comments:

Terminating Cue: When the Candidate verifies that air is being discharged, the evaluation for this JPM is complete.

Stop Time: _____

VERIFICATION OF COMPLETION

JPM No.: 2002 NRC S4

Examinee's Name:

Examiner's Name:

Date performed:

Facility Evaluator:

Number of attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT ____

Examiner's signature and date: _____ _____

JPM CUE SHEET

INITIAL CONDITIONS:

The plant is in Mode 3. The IPC is out of service.
The Ohio River water temperature is 73°F. Dewpoint temperatures are 54.5°F, 54.4°F, 54.8°F and 54.7°F respectively for computer points T0635A, T0655A, T0661A and T0675A.

INITIATING CUE:

The Unit Supervisor directs you to calculate containment air partial pressure and adjust as necessary to satisfy Technical Specification LCO 3.6.1.4.

Appendix C **JOB PERFORMANCE MEASURE** Form ES-C-1 (R8, S1)

Facility: **BVPS Unit 1** Task No: 0362-007-01-013

Task Title: Transfer Bus 1AE From Emergency To Normal Feed JPM No: 2002 NRC S5

K/A Reference: 064 A4.06 (3.9/3.9)

Examinee: _____ NRC Examiner: _____

Facility Evaluator: N/A Date: _____

Method of Testing:

Simulated Performance: _____ Actual Performance __X__

Classroom: _____ Simulator: __X__ Plant: _____

READ TO THE EXAMINEE

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

Initial Conditions:	The Unit is in Mode 1. EDG No. 1 is running and carrying the loads on 4KV Bus "1AE". Normal 4KV Bus "1A" is energized from the Unit Station Service Transformer. ACB 1E12 is closed and the 4KV normal to emergency tie breakers, 1A10 and 1E7 are open.
Task Standard:	4KV Bus "1AE" is supplied from its normal feed and EDG No. 1 is shutdown in accordance with 1OM-36.4.Q.
Required Materials:	None
General References:	1OM-36.4.Q, Transferring Emergency Busses 1AE And 1DF From Emergency Feed To Normal Feed, Rev. 7
Handouts:	1OM-36.4.Q, Rev. 7
Tools:	None
Initiating Cue:	The Unit Supervisor directs you to transfer Bus "1AE" to Bus "1A" and shutdown EDG No. 1 in accordance with 1OM-36.4.Q.
Time Critical Task:	NO
Validation Time:	25 minutes

Simulator Setup Information

Setup:	Initialize IC-86. Ensure EDG No. 1 Speed Droop is set at 55 (LOA EPS288 - Parallel Operations)

PERFORMANCE INFORMATION

Transfer Bus 1AE From Emergency To Normal Feed 2002 NRC S5

(Denote critical steps with an asterisk) **Start Time:** _____

	Evaluator Note:	If asked, inform Candidate that grid stability has been verified and Operations management has given permission to proceed.

* **Performance Step 1:** (Step IV.A.1) Place the Emerg Gen 1 Synchronizing Sel Sw to the ACB 1E7 position.

Standard: Candidate locates and places selector switch to the ACB 1E7 position.

Comments:

Performance Step 2: (Step IV.A.2) Verify ANN A9-8, ACB 1E7 OR 1E9 IN SYNCHRONIZING MODE, is ON.

Standard: Candidate verifies ANN A9-8 is ON.

Comments:

Performance Step 3: (Step IV.A.3) Check control switch 4KV Bus 1AE To 1A ACB 1E7 is in the AFTER-OPEN position.

Standard: Candidate locates and checks control switch is in the AFTER-OPEN position.

- Verifies green target.

Comments:

---

* **Performance Step 4:** (Step IV.A.4) Close 4KV Bus 1A To 1AE ACB 1A10.

Standard: Candidate locates and momentarily places control switch to Close position.

- Verifies 1A10 breaker red light is ON.

Evaluator Note: If asked, inform Candidate that another Operator will perform independent verifications.

Comments:

Performance Step 5: (Step IV.A.5) Adjust the governor speed droop knob to 55 while maintaining frequency at approximately 60 Hz.

Standard: Candidate directs local operator to adjust speed droop knob to 55.

- Maintains EDG frequency at approximately 60 Hz.

CUE: Speed droop is set at 55.

Comments:

---

* **Performance Step 6:** (Step IV.A.6) Using the Emerg Gen 1 Governor control switch, Adjust the generator speed UNTIL the Synchroscope needle is Rotating very slowly in the FAST direction.

Standard: Candidate locates and observes synchroscope rotation.

- Adjusts governor control switch until the needle is rotating slowly in the fast direction.

Comments:

---

* **Performance Step 7:** (Step IV.A.7) Using the Emerg Gen 1 Volt Adjust, match generator voltage (Running) with the voltage on Bus 1A (Incoming).

Standard: Candidate locates generator voltmeter (Sync Volts Running Norm) and compares it to 4KV Bus 1A voltmeter (Sync Volts Incoming Norm).

- Verifies generator voltage matches bus voltage
- Adjusts, if necessary not to exceed 130 volts.

Comments:

---

* **Performance Step 8:** (Step IV.A.8) When both synchronizing lights are completely dark AND the synchroscope needle is at 12 o'clock position, THEN Close 4KV Bus 1AE To 1A ACB 1E7.

Standard: Candidate monitors both synchroscope lights and places breaker control switch to close position when needle is at 12 o'clock.

- Verifies 1A ACB 1E7 breaker red light is ON.

Comments:

Performance Step 9: (Step IV.A.9) Place the Emerg Gen 1 Synchronizing Sel Sw to the OFF position.

Standard: Candidate places selector switch to the OFF position.

Comments:

Performance Step 10: (Step IV.A.9.a) Verify ANN A9-8, ACB 1E7 OR 1E9 IN SYNCHRONIZING MODE, is OFF.

Standard: Candidate verifies ANN A9-8 is OFF.

Comments:

Performance Step 11: (Step IV.A.10) Perform the following to clean out the exhaust system prior to shutting down the diesel generator, as necessary.

Standard: No action required.

CUE: The diesel has been running at full load for about 8 hours.

Comments:

Performance Step 12: (Step IV.A.11) Reduce load on the No. 1 Diesel Generator by Placing the Emerg Gen 1 Governor control switch intermittently to the LOWER position.

Standard: Candidate locates and intermittently places control switch to the lower position.

- Monitors the following to ensure limits are not exceeded during the load decrease:
  - 130 volts
  - Between 0.8 and 1.0 power factor

Comments:

---

* **Performance Step 13:** (Step IV.A.12) When the load on the No. 1 Diesel Generator has been reduced to less than 200 KW (as read on the Emerg Gen 1 Watts meter), THEN Open Emerg Gen 1 Circuit Breaker ACB 1E9.

Standard: Candidate reduces load to less than 200 KW and momentarily places breaker control switch to the trip position.

- Verifies breaker ACB 1E9 white light is ON.

Comments:

Performance Step 14: (Step IV.A.13) Verify the Emerg Gen 1 Motor Operated Gnd Sw DS1, is Open.

Standard: Candidate verifies green light is ON and red light is OFF.

Comments:

Performance Step 15: (Step IV.A.14) Shutdown [EE-EG-1], Emergency Diesel Generator No. 1 in accordance with 1OM-36.4.AG, "Diesel Generator No. 1 Start-Up And Shutdown".

Standard: No action required.

CUE: The Turbine Bldg. Operator will shutdown the diesel generator.

Comments:

Terminating Cue: When the Candidate verifies the ground switch is open, the evaluation for this JPM is complete.

Stop Time: _____

VERIFICATION OF COMPLETION

Transfer Bus 1AE From Emergency To Normal Feed 2002 NRC S5

JPM No.: 2002 NRC S5

Examinee's Name:

Examiner's Name:

Date performed:

Facility Evaluator:

Number of attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT ____

Examiner's signature and date: _____ _____

JPM CUE SHEET

INITIAL CONDITIONS: The Unit is in Mode 1. EDG No. 1 is running and carrying the loads on 4KV Bus "1AE". Normal 4KV Bus "1A" is energized from the Unit Station Service Transformer. ACB 1E12 is closed and the 4KV normal to emergency tie breakers, 1A10 and 1E7 are open.

INITIATING CUE: The Unit Supervisor directs you to transfer Bus "1AE" to Bus "1A" and shutdown EDG No. 1 in accordance with 1OM-36.4.Q.

Appendix C **JOB PERFORMANCE MEASURE** Form ES-C-1 (R8, S1)

Facility: **BVPS Unit 1** Task No: 0341-003-01-013

Task Title: Start A Containment Instrument Air Compressor JPM No: 2002 NRC S6

K/A Reference: 078 K3.01 (3.1/3.4) 078 A3.01 (3.1/3.1)

Examinee: _____ NRC Examiner: _____

Facility Evaluator: N/A Date: _____

Method of Testing:

Simulated Performance: _____ Actual Performance __X__

Classroom: _____ Simulator: __X__ Plant: _____

READ TO THE EXAMINEE

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

Initial Conditions:	A LOCA has just occurred resulting in a Reactor Trip, Safety Injection, and Containment Phase A and Phase B Isolation. The stub busses have been reenergized following the CIB. Step 4 of ES-1.2, Post LOCA Cooldown and Depressurization is in progress. 1IA-C-1B, CNMT Instrument Air Compressor is on clearance.
Task Standard:	Start 1IA-C-1A, CNMT Instrument Air Compressor in accordance with 1OM-53A.1.ES-1.2.
Required Materials:	None
General References:	1OM-53A.1.ES-1.2, Post LOCA Cooldown And Depressurization, Issue 1C, Rev. 3
Handouts:	1OM-53A.1.ES-1.2, Issue 1C, Rev. 3
Tools:	None
Initiating Cue:	The Unit Supervisor directs you to perform Step 4 of ES-1.2, Post LOCA Cooldown and Depressurization to restore containment instrument air.
Time Critical Task:	NO
Validation Time:	15 minutes

Simulator Setup Information

Setup:	Initialize IC-87. Place YCT w/Red Slash on C/S for 1IA-C-1B.

PERFORMANCE INFORMATION

Start a Containment Instrument Air Compressor 2002 NRC S6

(Denote critical steps with an asterisk) **Start Time:** _____

Performance Step 1: (Step 4.a) CNMT Instr Air Compressor - AT LEAST ONE RUNNING.

Standard: Candidate verifies that no compressors are running.

Comments:

Performance Step 2: (Step 4.a.1 RNO) Check at least one chiller [1VS-E-3A, B, C] in service.

Standard: Candidate checks annunciators are clear, or dispatches Turbine Bldg. Operator to check chiller status.

CUE: Report as Turbine Bldg. Operator that 1VS-E-3A is in service.

Comments:

---

* **Performance Step 3:** (Step 4.a.2 RNO) Open [TV-1CC-110D, F2], CNMT Recirc Clg Coils AC/RW Outlet CNMT Isol Vlv.

Standard: Candidate locates valve control switches and places to Open position.

- Verifies red lights are ON and green lights are OFF.

Comments:

---

* **Performance Step 4:** (Step 4.a.3 RNO) Open [TV-1CC-110E2, E3], CNMT Recirc Clg Coils AC Sys Inlet CNMT Isol Vlvs.

Standard: Candidate locates valve control switches and places to Open position.

- Verifies red lights are ON and green lights are OFF.

Comments:

---

* **Performance Step 5:** (Step 4.a.4 RNO) Start an available [1IA-C-1A (B)] CNMT Instr Air Compressor.

Standard: Candidate locates 1IA-C-1A control switch and places to Start position.

- Verifies red light is ON.

Comments:

Performance Step 6: (Step 4.a.5 RNO) If available, place the standby CNMT Instr Air Compressor in AUTO.

Standard: No action required. [1IA-C-1B] is on clearance (JPM Initial Conditions)

Comments:

Performance Step 7: (Step 4.b) CNMT instrument air header pressure on [PI-1IA-106A] – GREATER THAN 85 psig.

Standard: Candidate checks instrument air header pressure > 85 psig, or Annunciator [A6-110] is not lit.

Comments:

Terminating Cue: When the Candidate determines that containment instrument air pressure is increasing, the evaluation for this JPM is complete.

Stop Time: _____

VERIFICATION OF COMPLETION

JPM No.: 2002 NRC S6

Examinee's Name:

Examiner's Name:

Date performed:

Facility Evaluator:

Number of attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT ____

Examiner's signature and date: _____ _____

INITIAL CONDITIONS: A LOCA has just occurred resulting in a Reactor Trip, Safety Injection, and Containment Phase A and Phase B Isolation. The stub busses have been reenergized following the CIB. Step 4 of ES-1.2, Post LOCA Cooldown and Depressurization is in progress. 1IA-C-1B, CNMT Instrument Air Compressor is on clearance.

INITIATING CUE: The Unit Supervisor directs you to perform Step 4 of ES-1.2, Post LOCA Cooldown and Depressurization to restore containment instrument air.

Appendix C **JOB PERFORMANCE MEASURE** Form ES-C-1 (R8, S1)

Facility: **BVPS Unit 1** Task No: 0063-021-06-013

Task Title: Place Overpressure Protection System In Service JPM No: 2002 NRC S7

K/A Reference: 2.2.12 (3.0/3.4)

Examinee: _____ NRC Examiner: _____

Facility Evaluator: N/A Date: _____

Method of Testing:

Simulated Performance: _____ Actual Performance __X__

Classroom: _____ Simulator: __X__ Plant: _____

READ TO THE EXAMINEE

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

Initial Conditions:	The plant is performing a cooldown to Mode 5 and has stabilized in Mode 4 to place OPPS in service. Valves 1RC-1, 1RC-28 and 1RC-200 have been verified open from the Control Room status prints. PT-1RC-402 and 403 are in service.
Task Standard:	Satisfactorily stroke PCV-1RC-455C, Pressurizer PORV in accordance with 1OST-6.8.
Required Materials:	Stopwatch Keys for OPPS switches
General References:	1OST-6.8, Placing Overpressure Protection System (OPPS) In Service, Rev. 12
Handouts:	1OST-6.8, Rev. 12 (marked up copy)
Tools:	None
Initiating Cue:	The Unit Supervisor directs you to perform a stroke test of PCV-1RC-455C, PRZR PORV Relief Valve in accordance with Sections VII.B and VII.C of 1OST-6.8. The Initial Conditions are complete and all test preparations have been performed.
Time Critical Task:	NO
Validation Time:	20 minutes

Simulator Setup Information

Setup:	Initialize IC-88. Setup SPDS to display the following points: [UZ2006], MOV-1RC-535 [PCV-1RC-455C-2]
	When directed, act as the STA to monitor computer points and respond to Candidate requests for valve positions.

PERFORMANCE INFORMATION

Place Overpressure Protection System In Service 2002 NRC S7

(Denote critical steps with an asterisk) **Start Time:** _____

Evaluator Note:	Provide Candidate with a stopwatch, 2 - Key #6 for OPPS switches and a copy of 1OST-6.8.

Performance Step 1: (Step VII.B.1) Verify [PT-1RC-402 and 403], RCS Wide Range Pressure, are in service by one of the following.

Standard: No action required. Step is N/A per JPM Initial Conditions.

Comments:

Performance Step 2: (Step VII.B.2) Verify nitrogen supply pressure for Overpressure Protection System is ≥ 600 psig.

Standard: Candidate verifies annunciators A4-7 and A4-8 are OFF.

Comments:

Performance Step 3: (Step VII.C.1) Ensure [MOV-1RC-537] PRZR PORV Isol MOV, is open to provide a flowpath to [PCV-1RC-455D].

Standard: Candidate verifies valve red light is ON and green light is OFF.

Comments:

Performance Step 4: (Step VII.C.2) Verify SPDS Computer Point [UZ2006] PRZR PORV ISOL VLV, indicates [MOV-1RC-535] OPEN.

Standard: Candidate verifies computer point indicates valve is open.

Evaluator Note: Inform Candidate that STA will monitor computer points on SPDS.

Comments:

---

* **Performance Step 5:** (Step VII.C.3) Close [MOV-1RC-535], PRZR PORV Isol MOV.

Standard: Candidate locates valve control switch and places to Close position.
- Verifies green light is ON and red light is OFF.

Comments:

Performance Step 6: (Step VII.C.4) As [MOV-1RC-535], PRZR PORV Isol MOV, is closing, verify [UZ2006] indicates [MOV-1RC-535] INTER position.

Standard: Candidate verifies computer point indicates INTER position.

Comments:

Performance Step 7: (Step VII.C.5)
Verify SPDS Computer Point, [UZ2006], PRZR PORV Isol Vlv MOV-RC535, indicates [MOV-1RC-535] CLOSED.

Standard:
Candidate verifies computer point indicates CLOSED position.

Comments:

Performance Step 8: (Step VII.C.6)
Verify SPDS Computer Point [PCV-1RC-455C-2], PRZR PORV, indicates CLSD.

Standard:
Candidate verifies computer point indicates CLSD position.

Comments:

Performance Step 9: (Step VII.C.7.a)
Verify [PI-1IA-106A], Containment Instrument Air Receiver pressure is ≥ 95 psig.

Standard:
Candidate locates [PI-1IA-106A].

- Verifies pressure ≥ 95 psig.

Comments:

---

* **Performance Step 10:** Open AND time [PCV-1RC-455C], PRZR PORV Relief Vlv.
(Step VII.C.7.b.1)

Standard: Candidate locates valve control switch.
- Opens and times using stopwatch.
- Verifies red light is ON and green light is OFF.

Comments:

Performance Step 11: Verify SPDS computer point [PCV-1RC-455C-2], PRZR PORV, indicates NT CLSD.
(Step VII.C.7.b.2)

Standard: Candidate verifies computer point indicates NT CLSD position.

Comments:

---

* **Performance Step 12:** Close [PCV-1RC-455C], PRZR PORV Relief Vlv.
(Step VII.C.7.b.3)

Standard: Candidate locates valve control switch and positions to Close.
- Verifies green light is ON and red light is OFF.

Comments:

Performance Step 13: (Step VII.C.7.b.4) Record the opening stroke time of [PCV-1RC-455C], PRZR PORV Relief Vlv, on Data Sheet 1.

Standard: Candidate records opening time on Data Sheet 1.

Comments:

---

* **Performance Step 14:** (Step VII.C.7.b.5) Place [PCV-1RC-455C], PRZR PORV Relief Vlv, control switch to AUTO.

Standard: Candidate locates control switch and places to AUTO position.

Comments:

---

* **Performance Step 15:** (Step VII.C.7.b.6) When [PCV-1RC-455C], PRZR PORV Relief Vlv, is closed, THEN open [MOV-1RC-535], PRZR PORV Isol MOV.

Standard: Candidate locates control switch and places to Open position.

- Verifies red light is ON and green light is OFF.

Comments:

Terminating Cue: When the Candidate verifies [MOV-1RC-535] is open, the evaluation for this JPM is complete.

Stop Time: _____

VERIFICATION OF COMPLETION

Place Overpressure Protection System In Service 2002 NRC S7

JPM No.: 2002 NRC S7

Examinee's Name:

Examiner's Name:

Date performed:

Facility Evaluator: N/A

Number of attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT ____

Examiner's signature and date: _____ _____

JPM CUE SHEET

2002 NRC S7

INITIAL CONDITIONS:

The plant is performing a cooldown to Mode 5 and has stabilized in Mode 4 to place OPPS in service.

Valves 1RC-1, 1RC-28 and 1RC-200 have been verified open from the Control Room status prints. PT-1RC-402 and 403 are in service.

INITIATING CUE:

The Unit Supervisor directs you to perform a stroke test of PCV-1RC-455C, PRZR PORV Relief Valve in accordance with Sections VII.B and VII.C of 1OST-6.8. The Initial Conditions are complete and all test preparations have been performed.

Appendix C **JOB PERFORMANCE MEASURE** Form ES-C-1 (R8, S1)

Facility: **BVPS Unit 1** Task No: 0241-028-01-013

Task Title: Startup The Dedicated AFW Pump JPM No: 2002 NRC P1

K/A Reference: 061K1.07 (3.6/3.8) 061A3.01 (4.2/4.2) 009EK3.22 (4.4/4.5)

Examinee: _____ NRC Examiner: _____

Facility Evaluator: N/A Date: _____

Method of Testing:

Simulated Performance: X Actual Performance: _____

Classroom: _____ Simulator: _____ Plant: X

READ TO THE EXAMINEE

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

Initial Conditions:	The Control Room is performing EOP FR-H.1, Response To Loss Of Secondary Heat Sink. A plant fire has disabled all 3 AFW pumps. 1FW-P-4, Dedicated AFW Pump is available and aligned to 1WT-TK-11. ERF Substation 4160V Bus "1H" is energized from offsite power. The ERF diesel is not running.
Task Standard:	1FW-P-4, Dedicated AFW Pump is started in accordance with EOP Attachment 2-K.
Required Materials:	None
General References:	1OM-53A.1.2-K, Dedicated AFW Pump [1FW-P-4] Startup, Issue 1C, Rev. 0.
Handouts:	1OM-53A.1.2-K, Issue 1C, Rev. 0
Tools:	None
Initiating Cue:	The Unit Supervisor directs you as an extra Operator on shift to startup 1FW-P-4, Dedicated AFW Pump in accordance with steps 4 through 13 of EOP Attachment 2-K.
Time Critical Task:	NO
Validation Time:	20 minutes

Simulator Setup Information

Setup:	None required.

PERFORMANCE INFORMATION

Startup The Dedicated AFW Pump 2002 NRC P1

(Denote critical steps with an asterisk) **Start Time:** _____

	Evaluator Note:	All steps are performed from the Main Feed Reg. Valve Room, except Step 10 which is performed from the Turbine Bldg. basement.

* **Performance Step 1:** (Step 4) At DAFW Pump Control Panel [PNL-DAFWP1], Place the LOCAL-TEST Switch to LOCAL and the ON-OFF Panel Switch to ON to energize the panel.

Standard: Candidate locates panel control switch and indicates placing to LOCAL position.

Comments:

Performance Step 2: (Step 5) Check Closed [MOV-1FW-160], DAFW [1FW-P-4] Discharge Isol.

Standard: Candidate locates valve position indicating lights.

- Indicates verifying green light is ON.

CUE: [MOV-1FW-160] is closed.

Comments:

Performance Step 3: (Step 6) Establish communications with the Control Room.

Standard: Candidate indicates method of contacting the Control Room.

CUE: Communications established.

Comments:

---

* **Performance Step 4:** (Step 7) Start [1FW-P-4], Dedicated AFW Pump

Standard: Candidate locates control switch and indicates taking out of P-T-L and placing to Start position.

- Indicates verifying red light is ON.

Comments:

---

* **Performance Step 5:** (Step 8) Open [MOV-1FW-160], DAFW [1FW-P-4] Discharge Isol.

Standard: Candidate locates control switch and indicates placing to Open position.

- Indicates verifying red light is ON.

Comments:

Performance Step 6: (Step 9) Reset FWI (Both Trains).

Standard: Contacts the PO in the Control Room to reset FWI.

CUE: FWI is reset on both trains.

Evaluator Note: Step is performed from the Control Room.

Comments:

Performance Step 7: (Step 10) Open [MOV-1FW-156A, B, C], 1A, 1B, 1C SG Main FW Cnmt Isol. Vlvs.

Standard: Contacts PO in the Control Room to open valves.

CUE: All valves are open.

Evaluator Note: Step is performed from the Control Room.

Comments:

Performance Step 8: (Step 11) Throttle [FCV-1FW-479, 489, 499], 1A, 1B, 1C SG FW Bypass FCVs.

Standard: Contacts PO in the Control Room to throttle valves.

CUE: All valves are throttled.

Evaluator Note: Step is performed from the Control Room.

Comments:

Performance Step 9: (Step 12) Verify pump suction and discharge flow rises as indicated on [FI-1FW-155B, 156].

Standard: Candidate locates FI-1FW-155B and 156.

CUE: Flow is approximately 300 gpm and rising.

Comments:

Performance Step 10: (Step 13.a) At [PNL-DAFWP2], Place the ON-OFF Switch to ON (Turbine Bldg - 693').

Standard: Candidate locates panel control switch and indicates placing to ON position.

CUE: All pump parameters are satisfactory.

Comments:

Terminating Cue: When the Candidate verifies pump flow, the evaluation for this JPM is complete.

Stop Time: _____

VERIFICATION OF COMPLETION

Startup The Dedicated AFW Pump 2002 NRC P1

JPM No.: 2002 NRC P1

Examinee's Name:

Examiner's Name:

Date performed:

Facility Evaluator:

Number of attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT ____

Examiner's signature and date: _____ _____

JPM CUE SHEET

2002 NRC P1

INITIAL CONDITIONS: The Control Room is performing EOP FR-H.1, Response To Loss Of Secondary Heat Sink. A plant fire has disabled all 3 AFW pumps. 1FW-P-4, Dedicated AFW Pump is available and aligned to 1WT-TK-11. ERF Substation 4160V Bus "1H" is energized from offsite power. The ERF diesel is not running.

INITIATING CUE: The Unit Supervisor directs you as an extra Operator on shift to startup 1FW-P-4, Dedicated AFW Pump in accordance with steps 4 through 13 of EOP Attachment 2-K.

Appendix C **JOB PERFORMANCE MEASURE** Form ES-C-1 (R8, S1)

Facility: **BVPS Unit 1** Task No: 0201-004-01-013

Task Title: Respond To Spent Fuel Pool Low Level Alarm JPM No: 2002 NRC P2

K/A Reference: 033K1.05 (2.7/2.8) 033K4.01 (2.9/3.2)

Examinee: _____ NRC Examiner: _____

Facility Evaluator: N/A Date: _____

Method of Testing:

Simulated Performance: __X__ Actual Performance: _____

Classroom: _____ Simulator: _____ Plant: __X__

READ TO THE EXAMINEE

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

Initial Conditions:	Annunciator [A6-3], SPENT FUEL POOL LEVEL LOW has just alarmed. Makeup is required to restore SFP level and clear the alarm. An Operator has been dispatched to observe level. The RWST level is at 50 feet and is not on recirculation purification.
Task Standard:	Complete the actions to restore SFP level in accordance with 1OM-20.4.AAC.
Required Materials:	None
General References:	1OM-20.4.AAC, Spent Fuel Pool Level Low, Rev. 8
Handouts:	1OM-20.4.AAC, Rev. 8
Tools:	None
Initiating Cue:	The Unit Supervisor directs you as an extra Operator on shift to coordinate with the PO to add water to the Spent Fuel Pool from the RWST in accordance with 1OM-20.4.AAC.
Time Critical Task:	NO
Validation Time:	20 minutes

Simulator Setup Information

Setup:	None required.

PERFORMANCE INFORMATION

Respond To Spent Fuel Pool Low Level Alarm 2002 NRC P2

(Denote critical steps with an asterisk) **Start Time:** _____

Performance Step 1: (Step 3.a.1)
Initiate makeup from the RWST by performing the following:
- Verify Closed or Close [1PC-118], Pri Water Sup To Spent Fuel Pool Isol.

Standard:
Candidate locates valve and indicates method of verifying valve is in the closed position.

CUE: [1PC-118] is closed.

Comments:

Performance Step 2: (Step 3.a.2)
Initiate makeup from the RWST by performing the following:
- Verify Closed or Close [1PC-146], Fuel Pool Purification Sys To RWST Recirc Sys Isol.

Standard:
Candidate locates valve and indicates method of verifying valve is in the closed position.

CUE: [1PC-146] is closed.

Comments:

---

* **Performance Step 3:** (Step 3.a.3)
Initiate makeup from the RWST by performing the following:
- Open [1QS-37], Refuel Water to Fuel Pool Isol.

Standard:
Candidate locates and indicates opening valve.

CUE: [1QS-37] is stuck closed and will **NOT** open.

Evaluator Note: If Candidate requests direction, inform that the Shift Manager directs adding primary grade water to the fuel pool.

Comments:

Note: The following steps represent the alternate path for this JPM.

Performance Step 4: (Step 3.c.1)
Add primary grade water to the fuel pool as follows:
- Stop any running [1QS-P-2A (2B)], Refueling Water Recirculating Pump to prevent dead heading.

Standard:
No action required. (RWST is not on recirculation purification per JPM Initial Conditions.)

Comments:

Performance Step 5: (Step 3.c.2)
Add primary grade water to the fuel pool as follows:
- Using Control Room Status Prints, Check Open [1BR-543], Pri Makeup to Fuel Pool Clg Isol.

Standard:
Candidate requests PO to check valve position using Control Room Status Prints.

CUE: [1BR-543] is open.

Comments:

Performance Step 6: (Step 3.c.3)
Add primary grade water to the fuel pool as follows:
- Verify Closed or Close [1QS-37], Refuel Water to Fuel Pool Isol.

Standard:
No action required. (Valve previously cued as stuck closed in step 3.)

Comments:

Performance Step 7: (Step 3.c.4)
Add primary grade water to the fuel pool as follows:
- Verify Closed or Close [1PC-146], Fuel Pool Purification Sys To RWST Recirc Sys Isol.

Standard: No action required. (Valve previously verified closed in step 2.)

Comments:

---

* **Performance Step 8:** (Step 3.c.5)
Add primary grade water to the fuel pool as follows:
- Open [1PC-118], Pri Water Sup To Spent Fuel Pool Isol.

Standard: Candidate locates and indicates method of unlocking and opening valve.

CUE: [1PC-118] is open.

Comments:

---

* **Performance Step 9:** (Step 3.c.6)
Add primary grade water to the fuel pool as follows:
- Throttle Open [1PC-145], Fuel Pool Clg Sys to RWST Recirc Isol.

Standard: Candidate locates and indicates throttling open valve.

CUE: [1PC-145] is throttled open.

CUE: As PO, inform Candidate that SFP level is slowly rising.

Comments:

Terminating Cue: When the Candidate completes the lineup to add makeup water to the SFP, the evaluation for this JPM is complete.

Stop Time: _____

VERIFICATION OF COMPLETION

JPM No.: 2002 NRC P2

Examinee's Name:

Examiner's Name:

Date performed:

Facility Evaluator:

Number of attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT ____

Examiner's signature and date: _____ _____

INITIAL CONDITIONS: Annunciator [A6-3], SPENT FUEL POOL LEVEL LOW has just alarmed. Makeup is required to restore SFP level and clear the alarm. An Operator has been dispatched to observe level. The RWST level is at 50 feet and is not on recirculation purification.

INITIATING CUE: The Unit Supervisor directs you as an extra Operator on shift to coordinate with the PO to add water to the Spent Fuel Pool from the RWST in accordance with 1OM-20.4.AAC.

Appendix C **JOB PERFORMANCE MEASURE** Form ES-C-1 (R8, S1)

Facility: **BVPS Unit 1** Task No: 0011-021-01-013

Task Title: Locally Trip The Reactor JPM No: 2002 NRC P3

K/A Reference: 001K6.03 (3.7/4.2) 001A2.13 (4.4/4.6)

Examinee: _____ NRC Examiner: _____

Facility Evaluator: N/A Date: _____

Method of Testing:

Simulated Performance: __X__ Actual Performance: _____

Classroom: _____ Simulator: _____ Plant: __X__

READ TO THE EXAMINEE

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

Initial Conditions:	A Unit trip has just been announced. The operating crew has entered FR-S.1, Response To Nuclear Power Generation - ATWS after efforts to manually trip the reactor from the Control Room proved unsuccessful.
Task Standard:	The reactor is locally tripped in accordance with EOP FR-S.1.
Required Materials:	None
General References:	1OM-53A.1.FR-S.1, Response To Nuclear Power Generation - ATWS, Issue 1C, Rev. 2
Handouts:	1OM-53A.1.FR-S.1, Issue 1C, Rev. 2
Tools:	None
Initiating Cue:	The Unit Supervisor directs you as an extra Operator on shift to locally trip the reactor in accordance with EOP FR-S.1, Step 1.
Time Critical Task:	NO
Validation Time:	10 minutes

Simulator Setup Information

Setup:	None required.

PERFORMANCE INFORMATION

Locally Trip The Reactor 2002 NRC P3

(Denote critical steps with an asterisk) **Start Time:** _____

	Evaluator Note:	Remind Candidate to simulate all actions and **NOT** to touch the reactor trip pushbuttons.

* **Performance Step 1:** (Step 1.e RNO) Open reactor trip breakers.

Standard: Candidate locates each breaker and indicates pressing the pushbutton to trip the breaker.

CUE: Both reactor trip breakers fail to open.

Comments:

Note: The following step represents the alternate path for this JPM.

* **Performance Step 2:** (Step 1.e RNO) Open rod drive MG sets output breakers.

Standard: Candidate locates each MG set output breaker and indicates turning the handle to open the breaker.

CUE: Both rod drive MG sets output breakers are open.

Comments:

Terminating Cue: When the Candidate simulates opening the rod drive MG set breakers, the evaluation for this JPM is complete.

Stop Time: _____

VERIFICATION OF COMPLETION

Locally Trip The Reactor 2002 NRC P3

JPM No.: 2002 NRC P3

Examinee's Name:

Examiner's Name:

Date performed:

Facility Evaluator:

Number of attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT ____

Examiner's signature and date: _____ _____

JPM CUE SHEET

2002 NRC P3

INITIAL CONDITIONS: A Unit trip has just been announced. The operating crew has entered FR-S.1, Response To Nuclear Power Generation - ATWS after efforts to manually trip the reactor from the Control Room proved unsuccessful.

INITIATING CUE: The Unit Supervisor directs you as an extra Operator on shift to locally trip the reactor in accordance with EOP FR-S.1, Step 1.