

Facility: **BVPS Unit 1** Task No.: 0011-014-01-013  
0535-006-04-013

Task Title: Raise Reactor Power To  $10^{-8}$  Amps JPM No.: 2007 NRC JPM S1

K/A Reference: 001 A2.11 (4.4/4.7)  
001 AA1.05 (4.3/4.2)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: \_\_\_\_\_ Actual Performance:  X   
Classroom \_\_\_\_\_ Simulator  X  Plant \_\_\_\_\_

**READ TO THE EXAMINEE**

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

Initial Conditions: A reactor startup is in progress in accordance with 1OM-50.4.D, Reactor Startup From Mode 3 To Mode 2. The following conditions exist:

- All shutdown bank rods are fully withdrawn.
- Control Bank "D" is at 91 steps.
- The estimated critical position is 100 steps on Control Bank "D".

Task Standard: The reactor is tripped in response to inappropriate continuous control rod motion.

Required Materials: Estimated Critical Position & 1/M Plot

General References: 1OM-50.4.D, Reactor Startup From Mode 3 To Mode 2, Rev. 49  
1OM-53C.4.1.1.3, RCCA Control Bank Inappropriate Continuous Movement, Rev. 10

Handouts: 1OM-50.4.D, Reactor Startup From Mode 3 To Mode 2, Rev. 49  
Estimated Critical Position & 1/M Plot

Initiating Cue: The Unit Supervisor directs you to withdraw control rods to 116 steps on Bank D OR to criticality in accordance with 1OM-50.4.D, Reactor Startup From Mode 3 To Mode 2, beginning at Step IV.D.15.f, and stabilize power at  $10^{-8}$  amps on IR indication.

Time Critical Task: NO

Validation Time: 16 minutes

**Simulator Setup:** Initialize IC- 226  
Select **FAST** speed on NR-45.  
TRG1 X07I069B = 1  
IMF CRF05B  
Verify CBD = 91 steps  
Power should be ~8.5E-11 amps

## PERFORMANCE INFORMATION

(Denote Critical Steps with a check mark)

**NOTE: Provide Candidate with Estimated Critical Position & 1/M Plot**

**START TIME:** \_\_\_\_\_

**Performance Step: 1**

(Step IV.D.15.f)

WHEN the Inverse Count Rate Ratio is less than 0.25, Reduce rod withdrawal intervals to 25 step increments.

**Standard:**

Candidate initiates rod withdrawal at less than 25 step increments.

**CUE: As the Unit Supervisor, inform the candidate that the ICRR is less than 0.25. Withdraw control rods at 5 step increments to take the reactor critical.**

**Comment:**

**Performance Step: 2**

(Step IV.D.16.a)

When Status Light D-11 "P-6" turns on:

Verify both source ranges HV Manual ON/OFF switches are in the NORMAL position.

**Standard:**

Candidate locates and verifies both source range HV MANUAL CONTROL switches in NORMAL.

**Comment:**

**Note: This step occurs due to P-6 actuation and prior to reaching criticality.**

**Performance Step: 3**

(Step IV.D.16.b)

Record Source Range Neutron Level indications:

[NI-NI-31A] \_\_\_\_\_ CPS

[NI-NI-32A] \_\_\_\_\_ CPS

**Standard:**

Candidate locates and records SR counts for N31 and N32.

**Comment:**

## PERFORMANCE INFORMATION

- Performance Step: 4**      Verify annunciators A4-85 and A4-87 "NIS SOURCE RANGE CH  
(Step IV.D.16.c)      1(2) DETECTOR VOLTAGE TROUBLE", are ON.
- Standard:**      Candidate locates and verifies A4-85 and A4-87 in alarm.
- Comment:**
- 
- Performance Step: 5**      Select both IR channels to indicate on recorder NR-45.  
(Step IV.D.16.d)
- Standard:**      Candidate locates and places NI SYS RECORDER SEL SW  
1N45 and 2N45 to record IR channels N35 and N36.
- Comment:**
- 
- √ **Performance Step: 6**      BLOCK the source range hi flux trip by placing the Block Source  
(Step IV.D.16.e)      Range Trip Train A and Train B control switches to BLOCK.
- Standard:**      Candidate locates and places BLOCK SOURCE RANGE TRIP  
TRAIN A/TRAIN B control switches in Block.
- Comment:**

## PERFORMANCE INFORMATION

**Performance Step: 7** Verify the Source Range High Voltage is de-energized.  
(Step IV.D.16.f)

**Standard:** Candidate locates and verifies Source Range DETECTOR VOLTS indicate zero.

**Comment:**

**Performance Step: 8** Verify annunciators A4-85 AND A4-87, "NIS SOURCE RANGE CH1(2) DETECTOR VOLTAGE TROUBLE", are OFF.  
(Step IV.D.16.g)

**Standard:** Candidate locates and verifies A4-85 AND A4-87 not in alarm.

**Comment:**

**Performance Step: 9** If the Source Range High Flux Trip signal is blocked prior to criticality, perform the following: (Otherwise N/A)  
(Step IV.D.17.a)  
Suspend performance of the 1/m plot.

**Standard:** Candidate determines step is N/A based on reactor criticality and source range high flux trips blocked.

**Comment:**

## PERFORMANCE INFORMATION

- √ **Performance Step: 10** Continue incremental rod withdrawal (at a rate determined by the SM, but not to exceed 25 step increments) until the reactor is critical as indicated by a stable positive startup rate, with no rod motion, on the intermediate range instrumentation once the prompt jump has receded.  
(Step IV.D.17.b)

**Standard:** Candidate continues withdrawing control rods to obtain a stable startup rate.

**CUE:** If asked, inform Candidate to withdraw rods at no more than 5 step increments to obtain a stable startup rate.

**Comment:**

**NOTE:** The following step begins the alternate path portion of the JPM. Rods will begin stepping in an uncontrolled manner.

**Performance Step: 11** Determine that rods are withdrawing with NO demand signal.

**Standard:** Candidate determines from CONTROL BANK D GROUP 1 and GROUP 2 ROD POSITION indication that rods are withdrawing with NO demand signal.

**Comment:**

## PERFORMANCE INFORMATION

√ **Performance Step: 12** Trip the reactor in response to inappropriate continuous rod motion.  
(AOP-1.1.3, Step 1 RNO)

**Standard:** Candidate trips the reactor in response to inappropriate continuous rod motion.

**NOTE:** Candidate may refer to AOP-1.1.3 and determine that a reactor trip is required based on Step 1 RNO.

**Comment:**

<b>Terminating Cue:</b> When the Candidate trips the reactor, the evaluation for this JPM is complete.
--

**STOP TIME:** \_\_\_\_\_

VERIFICATION OF COMPLETION

JPM No.: BVPS-1 2007 NRC JPM S1

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Response: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Result: Satisfactory/Unsatisfactory

Examiner's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**INITIAL CONDITIONS:**

A reactor startup is in progress in accordance with 10M-50.4.D, Reactor Startup From Mode 3 To Mode 2. The following conditions exist:

- All shutdown bank rods are fully withdrawn.
- Control Bank "D" is at 91 steps.
- The estimated critical position is 100 steps on Control Bank "D".

**INITIATING CUE:**

The Unit Supervisor directs you to withdraw control rods to 116 steps on Bank D OR to criticality in accordance with 10M-50.4.D, Reactor Startup From Mode 3 To Mode 2, beginning at Step IV.D.15.f, and stabilize power at  $10^{-8}$  amps on IR indication.

Facility: **Beaver Valley Unit 1** Task No.: 0481-024-03-013

Task Title: Respond to a Stuck Open Pressurizer Spray Valve JPM No.: 2007 NRC JPM S2

K/A Reference: 010 A2.02 (3.9/3.9)

Examinee: \_\_\_\_\_ NRC Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of testing:

Simulated Performance: \_\_\_\_\_ Actual Performance:  X

Classroom \_\_\_\_\_ Simulator  X  Plant \_\_\_\_\_

**READ TO THE EXAMINEE**

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

Initial Conditions: A reactor Trip has occurred. The crew has transitioned to ES-0.1, Reactor Trip Response to stabilize the plant.

Task Standard: RCPs 1A and 1C are stopped

Required Materials: None

General References: ES-0.1, Reactor Trip Response, Issue 1C, Rev. 6

Handouts: ES-0.1, Reactor Trip Response, Issue 1C, Rev. 6

Initiating Cue: The US directs you to perform the actions to stabilize the plant in accordance with ES-0.1, by performing steps 8-12

Time Critical Task: NO

Validation Time: 12 minutes

**SIMULATOR SETUP**

<b>Simulator Setup:</b> Reset to IC-235 PRS09A 35
--

---

**PERFORMANCE INFORMATION**

---

(Denote Critical Steps with a check mark)

**START TIME:** \_\_\_\_\_

**Performance Step: 1** PRZR level – GREATER THAN 14%.

(Step 8.a)

**Standard:** Candidate locates and verifies PRZR level GREATER THAN 14% by checking LI-1RC-459, 460, 461.

**Comment:**

**Performance Step: 2** Charging – IN SERVICE.

(Step 8.b)

**Standard:** Candidate verifies Charging IN SERVICE. Flow indicated on FI-1CH-122A

**Comment:**

**Performance Step: 3** Letdown – IN SERVICE.

(Step 8.c)

**Standard:** Candidate verifies Letdown IN SERVICE. TV-1CH-200A, B, or C indicate open. Flow verified on FI-1CH-150

**Comment:**

## PERFORMANCE INFORMATION

**Performance Step: 4** PRZR level – TRENDING TO 22%.

(Step 8.d)

**Standard:** Candidate verifies PRZR level TRENDING TO 22% by checking LI-1RC-459, 460, 461..

**Note:** If PRZR level is rising due to RCS temperature rising, inform candidate that another operator will adjust RCS temperature.

**Comment:**

**Performance Step: 5** Place [FCV-1CH-122] in AUTO.

(Step 8.e)

**Standard:** Candidate places [FCV-1CH-122] in AUTOMATIC. Verifies AUTO light is ON

**Comment:**

**Performance Step: 6** Check PRZR Pressure – GREATER THAN 1850 PSIG.

(Step 9)

**Standard:** Candidate verifies PRZR Pressure is GREATER THAN 1850 PSIG on PI-1RC-455, 456, 457.

**Note:** Candidate may choose to use PI-1RC-444 or 445 as alternate indication for RCS pressure

**Comment:**

## PERFORMANCE INFORMATION

- Performance Step: 7** Check PRZR pressure – LESS THAN 2235 PSIG AND DROPPING.  
(Step 10.a)
- Standard:** Candidate verifies PRZR Pressure is DROPPING. PRZR pressure is LESS THAN 2235 PSIG and DROPPING on PI-1RC-455, 456, 457..
- Note:** Applicant may choose to use PI-1RC-444 or 445 as alternate indication for RCS pressure
- Comment:**
- Performance Step: 8** PORVs – CLOSED.  
(Step 10.b)
- Standard:** Candidate verifies PORVs PCV-1RC-455C, 455D, and 456 CLOSED. Green light ON, red light OFF
- Comment:**
- Performance Step: 9** Spray Vlvs – CLOSED.  
(Step 10.c)
- Standard:** Candidate verifies Spray Valve PCV-1RC-455A NOT CLOSED.
- Comment:** **Note:** Candidate must observe TI-RC-451 & 452 to determine that a spray valve is stuck open.
- NOTE:**  
The following steps represent the alternate path for this JPM
- ✓ **Performance Step: 10** Manually close valves.  
(Step 10.c)
- Standard:** Candidate manually closes valves. Determines Spray valve 455A will not close
- Comment:**

---

**PERFORMANCE INFORMATION**

---

- ✓ **Performance Step: 11** If [PCV-1RC-455A] has failed, THEN Stop RCP 1A and 1C.  
(Step 10.c RNO)

**Standard:** Candidate stops RCPs 1A and 1C. White TRIP light on and red RUNNING light off for each pump.

**Comment:**

**Terminating Cue:** When the Candidate has tripped RCP's, this JPM is complete.

**STOP TIME:** \_\_\_\_\_

VERIFICATION OF COMPLETION

Job Performance Measure No.: BVPS-1 2007 NRC JPM S2

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result:                      SAT        \_\_\_\_\_        UNSAT        \_\_\_\_\_

Examiner's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

INITIAL CONDITIONS: A Reactor Trip has occurred. The crew has transitioned to ES-0.1, Reactor Trip Response

INITIATING CUE: The US directs you to perform actions to stabilize the plant in accordance with ES-0.1, by performing steps 8-12

Facility: **Beaver Valley Unit 1** Task No.: 0481-024-03-013

Task Title: Loss of Emergency Coolant Recirculation JPM No.: 2007 NRC JPM S3

K/A Reference: E11 EA1.3 (3.7/4.2)

Examinee: \_\_\_\_\_ NRC Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of testing:

Simulated Performance: \_\_\_\_\_ Actual Performance:  X

Classroom \_\_\_\_\_ Simulator  X  Plant \_\_\_\_\_

**READ TO THE EXAMINEE**

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

Initial Conditions: A LOCA occurred 16 hours ago. The DF Bus de-energized prior to any ESF actuations, and NO Train B valves repositioned. The crew was performing the actions of E-1 when cold leg recirculation capability could not be verified due to NO LHSI pumps running.

The crew has transitioned to ECA-1.1, Loss of Emergency Coolant Recirculation. RVLIS is OOS.

Task Standard: Minimum SI flow established through the normal charging flowpath.

Required Materials: None

General References: ECA-1.1, Rev 14

Handouts: ECA-1.1, Rev 14  
10M-53A.1. 6-E, 50F plus subcooling based on core exit TCs, Rev 0  
10M-53A.1.5-G, Minimum SI Flow Vs Time After Trip, Rev 2

Initiating Cue: The US directs you to perform the steps to terminate SI using ECA-1.1, Loss of Emergency Coolant Recirculation beginning with step 19

Time Critical Task: NO

Validation Time: 15 minutes

**SIMULATOR SETUP**

<b>Simulator Setup:</b>	Reset to IC- 237
EPS11B	#2 EDG Trip
EPS04F	Loss of DF bus
RCS02D	"A" Loop DBA LOCA
RCS08A, B, C	RCP Trips
SIS03C	RS-P-2A Trip
SIS06A	"A" LHSI pump Trip
IOR X160116J	RVLIS Train A OOS
IOR X160116K	RVLIS Train B OOS

Place OOS stickers on BOTH Trains of RVLIS

---

 PERFORMANCE INFORMATION
 

---

(Denote Critical Steps with a check mark )

**START TIME:** \_\_\_\_\_

**Performance Step: 1**

(Step 19)

a. Check RVLIS:

- Full range – GREATER THAN 64% IF NO RCP RUNNING

OR

- Dynamic head range – GREATER THAN 34% IF ONE RCP RUNNING

OR

- Dynamic head range – GREATER THAN 43% IF TWO RCPs RUNNING.

**Standard:**

Candidate determines RVLIS OOS from initiating cue.

**Comment:**

**Performance Step: 2**

(Step 19.b)

RCS subcooling based on core exit TCs – GREATER THAN 96°F [104°F ADVERSE CNMT].

**Standard:**

Candidate determines that subcooling is less than 96°F

**Note: Provide copy of Att. 6-E**

**Comment:**

**NOTE: Actual subcooling is 0°F (~ 16°F superheat)**

**Performance Step: 3**

(Step 19.b RNO)

IF subcooling less than required on Attachment 6-E, THEN GO TO Step 20.

**Standard:**

Candidate determines subcooling is less than required and refers to step 20

**Comment:**

**NOTE: Actual subcooling is 0°F (~ 16°F superheat)**

## PERFORMANCE INFORMATION

**Performance Step: 4**  
(Step 20.a.1)

Verify [MOV-1CH-115B (D)] – OPEN

**Standard:**

Candidate verifies red open light ON and green closed light OFF.

**Note: Train B components de-energized**

**Comment:**

**Performance Step: 5**  
(Step 20.a.2)

Verify [MOV-1CH-115C (E)] - CLOSED

**Standard:**

Candidate verifies red open light off and green closed light ON.

**Note: Train B components de-energized**

**Comment:**

**Performance Step: 6**  
(Step 20.b)

Stop any running LHSI Pumps AND place in AUTO.

**Standard:**

Candidate verifies LHSI Pumps white tripped lights are lit and red running lights are not lit for both pumps.

**Note: LHSI Pumps are tripped**

**Comment:**

**Performance Step: 7**  
(Step 20.c)

Determine minimum SI flow using Attachment 5-G.

**Standard:**

Candidate refers to Attachment 5-G and determines 140 gpm is minimum SI flow.

**CUE: Provide copy of Att. 5-G**

**Note: 140 GPM is based on time after trip of approximately 960 minutes, given in initial conditions**

**Comment:**

## PERFORMANCE INFORMATION

**Performance Step: 8**

(Step 20.d)

Determine SI flow path:

- For minimum required SI flow less than 200 GPM, GO TO Step 20.e

OR

- For minimum required SI flow greater than 200 GPM, GO TO Step 20.f.

**Standard:**

Candidate determines flow required is less than 200 GPM.

**Comment:****Performance Step: 9**

(Step 20.e.1)

Close [FCV-1CH-122].

**Standard:**

Candidate closes [FCV-1CH-122]. Verifies meter indication at 100%

**Comment:****Performance Step: 10**

(Step 20.e.2)

Open [MOV-1CH-310].

**Standard:**

Candidate determines [MOV-1CH-310] is open.

**Note: MOV-310 would be de-energized OPEN based on the initial conditions containing DF Bus de-energized.****Comment:**✓ **Performance Step: 11**

(Step 20.e.3)

Open [MOV-1CH-289].

**Standard:**

Candidate opens [MOV-1CH-289] and verifies red open light is on and green closed light is off.

**Comment:**

## PERFORMANCE INFORMATION

- ✓ **Performance Step: 12** Close [MOV-1SI-867A, B].  
(Step 20.e.4)  
**Standard:** Candidate closes [MOV-1SI-867A, B] and verifies green closed light is on and red open light is off.  
**Note: MOV-1SI-867B would be de-energized CLOSED based on the initial conditions containing DF Bus de-energized.**  
**Comment:**
- ✓ **Performance Step: 13** Close [MOV-1SI-867C, D].  
(Step 20.e.5)  
**Standard:** Candidate closes [MOV-1SI-867C, D] and verifies green closed light is on and red open light is off .  
**Note: MOV-1SI-867D would be de-energized CLOSED based on the initial conditions containing DF Bus de-energized.**  
**Comment:**
- ✓ **Performance Step: 14** Adjust [FCV-1CH-122] to maintain required flow according to Attachment 5-G.  
(Step 20.e.6)  
**Standard:** Candidate adjusts [FCV-1CH-122] to maintain required flow according to Attachment 5-G. (140 GPM)  
**Comment:**
- Terminating Cue:** When charging flow is aligned through the normal charging header at 140 GPM, this JPM is complete.

STOP TIME: \_\_\_\_\_

VERIFICATION OF COMPLETION

Job Performance Measure No.: BVPS-1 2007 NRC JPM S3

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result:                      SAT        \_\_\_\_\_        UNSAT        \_\_\_\_\_

Examiner's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**INITIAL CONDITIONS:** A LOCA occurred 16 hours ago. The DF Bus de-energized prior to any ESF actuations, and NO Train B valves repositioned. The crew was performing the actions of E-1 when cold leg recirculation capability could not be verified due to NO LHSI pumps running. The crew has transitioned to ECA-1.1, Loss of Emergency Coolant Recirculation. RVLIS is OOS.

**INITIATING CUE:** The US directs you to perform the steps to terminate SI using ECA-1.1, Loss of Emergency Coolant Recirculation beginning with step 19

Facility: **BVPS Unit 1** Task No.: 0071-025-01-013Task Title: Perform Manual Makeup to the  
Charging Pump Suction JPM No.: 2007 NRC JPM S4

K/A Reference: 004 A4.01 3.8/3.9

Examinee:

NRC Examiner:

Facility Evaluator:

Date:

Method of testing:Simulated Performance: \_\_\_\_\_ Actual Performance:  X   
Classroom \_\_\_\_\_ Simulator  X  Plant \_\_\_\_\_**READ TO THE EXAMINEE**

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

- Initial Conditions:
- The plant is at 100% power.
  - Core burnup is 500 MWD/MTU.
  - RCS boron concentration is 1210 ppm from the most recent Chemist's sample.
  - The in service Boric Acid Tank concentration is 7380 ppm.
  - VCT level is currently 24%.

Task Standard: Makeup flow stopped after discovery of no boric acid flow.

Required Materials: Calculator

General References: 1OM-7.4.P, Blender Manual Makeup Operation, Rev. 7

Handouts: 1OM-7.4.P, Blender Manual Makeup Operation  
Unit 1 Plant Curve Book

Initiating Cue: The Unit Supervisor directs you to add 300 gallons of blended makeup to the VCT at the corrected boron concentration and a flow of 100 gpm in accordance with 1OM-7.4.P, Blender Manual Makeup Operation.

The Initial Conditions of the procedure are met.

Time Critical Task: NO

Validation Time: 15 Minutes

**Simulator Setup:** Initialize IC-238

Ensure VCT level at 24%. (Command: RAMP ACVCVCTW,  
10292 7000 30)

Insert LOA CHS067 to close 1CH-P-2A discharge valve to  
boric acid filter.

Update blender setpoint to 1210 ppm.

Update in service BAST placard to 7380 ppm.

Do not enter setpoint data.

Set BA & Total flow totalizers to ZERO

## PERFORMANCE INFORMATION

*(Denote Critical Steps with a check mark)*

**START TIME:** \_\_\_\_\_

**EVALUATOR NOTE:** First step is optional. Evaluator may elect to provide procedure. If provided, N/A this JPM step

**Performance Step: 1** Obtain procedure.

**Standard:** Candidate locates 1OM-7.4.P, Blender Manual Makeup Operation.

**EVALUATOR CUE:** After candidate locates the procedure, provide a copy of 1OM-7.4.P, Blender Manual Makeup Operation.

**Comment:**

**Performance Step: 2** Obtain the existing RCS boron concentration obtained from the Chemist's sample.

**Standard:** No action required. Information is provided in the Initial Conditions. (1210 ppm)

**Comment:**

**Performance Step: 3** If the plant is operating at power, Obtain the B-10 Correction Factor from Curve Book 29, Otherwise Contact Reactor Engineering to obtain a B-10 Correction Factor.

**Standard:** Candidate locates and determines correction factor from CB-29 equals 0.98.

**Comment:**

## PERFORMANCE INFORMATION

**Performance Step: 4** Calculate Corrected Boron Concentration AND record in the Daily Journal.

**Standard:**

Candidate calculates a corrected boron concentration of 1186 ppm. (1210 x 0.98 = 1186.)

**EVALUATOR NOTE:** If asked, inform the Candidate that another operator will make the Daily Journal log entry.

**Comment:**

**Performance Step: 5** Obtain the inservice Boric Acid Tank boron concentration obtained from Chemist's sample.

**Standard:**

No action required. Information provided in the Initial Conditions. (7380 ppm)

**Comment:**

**Performance Step: 6** Determine the desired boric acid flow controller setpoint as follows AND record in the Daily Journal.

**Standard:**

Candidate calculates boric acid flow:

$$\frac{1186 \text{ ppm} \times 100 \text{ gpm}}{7380} = 16.0 \text{ gpm}$$

Candidate records results in the daily journal.

**EVALUATOR CUE:** If desired, inform candidate that another operator will update the daily journal.

**Comment:**

## PERFORMANCE INFORMATION

- Performance Step: 7** Place 1MU to STOP for greater than 1 second to allow the blender to unarm.
- Standard:**  
Candidate locates 1MU switch and places it to STOP for > 1 second.  
Candidate verifies makeup control green light lit.
- Comment:**
- ✓ **Performance Step: 8** Adjust Boric Acid to Blender FCV [FCV-1CH-113A] controller (BB-A) to the calculated desired boric acid flow setpoint.
- Standard:**  
Candidate locates and sets FCV-1CH-113 for the desired flow (16.0 gpm x 25 units/gpm = 400 units)
- Comment:**
- ✓ **Performance Step: 9** Reset [YIC-1CH-113], Boric Acid Integrator.
- Standard:**  
Candidate locates YIC-1CH-113 and adjusts to the desired quantity.  
Resets YIC-1CH-113 Boric Acid Integrator  
**EVALUATOR NOTE:** Total volume change is 300 gallons of which ~ 48 gallons is boric acid.
- Comment:**
- Performance Step: 10** Adjust Primary Water to Blender FCV [FCV-1CH-114A] controller (BB-A) to the desired blender total flow.
- Standard:**  
Candidate locates FCV-1CH-114A and sets for the desired total flow setpoint: 100 gpm = 625 units.
- Comment:**

## PERFORMANCE INFORMATION

- ✓ **Performance Step: 11** Reset [YIC-1CH-168A], Blender Output Integrator.
- Standard:**
- Candidate locates YIC-1CH-168A and adjusts to the desired value.
- Resets YIC-1CH-168A Blender Output Integrator
- EVALUATOR NOTE:** Total volume change is 300 gallons from the Initial Conditions.
- Comment:**
- Performance Step: 12** Log the flow totalizer indication and add to it the number of gallons set into the batch integrator for [YIC-1CH-113], Boric Acid Integrator AND [YIC-1CH-168A], Blender Output Integrator.
- Standard:**
- Candidate sums the totalizer and integrator values, then records the summed values for both YIC-1CH-113 and YIC-1CH-168.
- EVALUATOR CUE:** It is not necessary to formally log this for this task
- Comment:**
- Performance Step: 13** Prior to the start of AND at least once every hour during a reduction in the RCS boron concentration: ([ITS] LRS 3.1.10.1) (N/A if raising or maintaining RCS boron concentration).
- Standard:**
- No action required. Step is N/A
- Comment:**
- Performance Step: 14** If in Mode 4, 5 or 6, align PG water to the blender by unlocking and opening either of the following valves: (Blender Room)
- Standard:**
- No action required. Plant is in Mode 1.
- Comment:**

## PERFORMANCE INFORMATION

- ✓ **Performance Step: 15** Place 43/MU to MAN. (BB-A)  
**Standard:** Candidate locates 43/MU switch and places it to MANUAL.  
**Comment:**
- ✓ **Performance Step: 16** Place 1MU to START. (BB-A)  
**Standard:** Candidate locates 1MU switch and places it to START.  
Candidate verifies red makeup light lit and boric acid Fast speed red light lit.  
**NOTE: The "A" Boric Acid Pump will trip in approximately 30 seconds. This will require the candidate to secure the makeup.**  
**Comment:**
- ✓ **Performance Step: 17** Place Blender Outlet to Chg Pumps FCV [FCV-1CH-113B] control switch to OPEN. (BB-A)  
**Standard:** Candidate locates FCV-1CH-113B switch and places it to OPEN.  
Candidate verifies red open light lit and green closed light not lit.  
**Comment:**

---

**PERFORMANCE INFORMATION**

---

✓ **Performance Step: 18**      Verify boric acid to Blender flow on [FR-1CH-113], Boric Acid Flow. (VB-A)

**Standard:**

Candidate locates FR-1CH-113 and verifies boric acid flow. NO FLOW INDICATED AFTER BORIC ACID PUMP TRIPS

Candidate takes immediate action to terminate dilution by placing 1MU control switch in STOP.

**Comment:**

**Terminating Cue:**                      **When the dilution is terminated, the evaluation for this JPM is complete**

**STOP TIME:** \_\_\_\_\_

VERIFICATION OF COMPLETION

Job Performance Measure No.: BVPS-1 2007 NRC JPM S4

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result:                      SAT        \_\_\_\_\_        UNSAT        \_\_\_\_\_

Examiner's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## INITIAL CONDITIONS:

- The plant is at 100% power.
- Core burnup is 500 MWD/MTU.
- RCS boron concentration is 1210 ppm from the most recent Chemist's sample.
- The in service Boric Acid Tank concentration is 7380 ppm.
- VCT level is currently 24%.

## INITIATING CUE:

The Unit Supervisor directs you to add 300 gallons of blended makeup to the VCT at the corrected boron concentration and a flow of 100 gpm in accordance with 1OM-7.4.P, Blender Manual Makeup Operation.

The Initial Conditions of the procedure are met.

Facility:	BVPS Unit 1	Task No.:	0011-006-01-013
Task Title:	<u>Manually Actuate CIB</u>	JPM No.:	<u>2007 NRC JPM S5</u>
K/A Reference:	026 A3.01 (4.3/4.5)	026 A4.01	(4.5/4.3)

Examinee:	NRC Examiner:
Facility Evaluator:	Date:
<u>Method of testing:</u>	
Simulated Performance: _____	Actual Performance: <u>  X  </u>
Classroom _____	Simulator <u>  X  </u>
	Plant _____

**READ TO THE EXAMINEE**

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

- Initial Conditions:
- A reactor trip and safety injection have occurred due to a large break LOCA.
  - 4KV bus 1DF is de-energized.
  - The actions of E-0 are being performed.

Task Standard: Manually initiate CIB, start 1QS-P-1A and stop the RCP's.

Required Materials: None

General References: 1OM-53A.1.1-K, Verification Of Automatic Actions, Issue 1C, Rev. 3  
1OM-53A.1.1-E, Containment Isolation Phase B Checklist, Issue 1C, Rev. 3

Handouts: 1OM-53A.1.1-K, Verification Of Automatic Actions, Issue 1C, Revision 3  
1OM-53A.1.1-E, Containment Isolation Phase B Checklist, Issue 1C, Rev. 3

Initiating Cue: The Unit Supervisor directs you to perform Attachment 1-K, Verification Of Automatic Actions, Step 8 to check CIB and Containment Spray status.

Time Critical Task: NO

Validation Time: 10 minutes

**Simulator Setup:** Initialize IC-229  
INH 50  
RCS 2D  
EPS 11B  
EPS 03B  
INH 42  
VLV-QSS03=0  
TR21 X021052C==1  
DMF VLV-QSS03

(Denote Critical Steps with a check mark)

**START TIME:** \_\_\_\_\_

**Performance Step: 1** Check CIB and Containment Spray Status  
(Step 8) Containment pressure - HAS REMAINED LESS THAN 11 PSIG  
**Standard:** Candidate locates PI-1LM-100A and 100B, Containment Pressure Indicators, or PR-1LM-100A, Containment Pressure Recorder.  
**Standard:** Candidate determines that containment pressure has **NOT** remained less than 11 psig.

**NOTE:** Containment pressure is > 11 psig.

**Comment:**

**NOTE:** The following step begins the alternate path portion of the JPM.

**Performance Step: 2** Verify CIB initiated:  
(Step 8.a RNO) Check BLUE CIB marks - LIT  
**Standard:** Candidate checks components properly aligned and determines CIB components not positioned as required and CIB **NOT** actuated.

**Comment:**

- √ **Performance Step: 3**      Verify CIB initiated:  
(Step 8.a RNO)      IF NOT, THEN manually initiate CIB (both pushbuttons for both trains). Check BLUE CIB marks - LIT
- Standard:**      Candidate locates and depresses both pushbuttons for Train "A" CIB.
- Standard:**      Candidate locates and depresses both pushbuttons for Train "B" CIB.
- NOTE:**      **Candidate may actuate either train first followed by the opposite train.**
- Comment:**      **NOTE: If asked about the loss of power to Train B components, confirm that the DF bus is de-energized.**
- 
- Performance Step: 4**      Verify CIB initiated:  
(Step 8.a RNO)      IF CIB NOT actuated, THEN manually align equipment. If necessary, refer to Attachment 1-E, "Containment Isolation Phase B Checklist".
- NOTE:**      **If requested, provide Candidate with a copy of Attachment 1-E.**
- Standard:**      Candidate checks all indicating lights with BLUE CIB marks LIT.
- NOTE:**      **Candidate should recognize time delays for 1-RS-P1A and 1-RS-P2A, Recirc Spray Pumps following CIB actuation.**
- Comment:**

- √ **Performance Step: 5** Candidate determines 1QS-P-1A, Quench Spray Pump 1A did NOT automatically start  
(Step 8.a RNO)

**Standard:** Places pump control switch to START. Verifies red light on, white light off, and motor amps/discharge pressure increasing

**Comment:**

- √ **Performance Step: 6** Candidate determines that MOV-1QS-101A, 1A Quench Spray Pump Disch Valve did NOT automatically open.  
(Step 8.a RNO)

**Standard:** Locates and opens MOV-1QS-101A. Verifies red light on, green light off.

**Comment:**

- √ **Performance Step: 7** Verify CIB initiated:  
(Step 8.b RNO)  
**Standard:** Stop all RCP's.  
**Standard:** Candidate determines that all RCP's are running.  
**Standard:** Candidate locates and places control switches for 1RC-P-1A, 1B and 1C in Stop.  
**Standard:** Candidate verifies white trip light on and red running light off for each pump.

**NOTE:** Candidate may choose to place control switches in Pull-To-Lock after stopping pumps.

**Comment:**

**Performance Step: 8** Request BV-2 operator verify CREVS equipment actuation.  
(Step 8.a RNO)

**Standard:** Candidate contacts Unit 2 to verify proper CREVS equipment operation.

**CUE:** Inform Candidate as Unit 2 Operator that all CREVS equipment is functioning properly.

**Comment:**

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

**STOP TIME:** \_\_\_\_\_

JPM No.: BVPS-1 2007 NRC JPM S5

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Response: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Result: Satisfactory/Unsatisfactory

Examiner's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**INITIAL CONDITIONS:**

- A reactor trip and safety injection have occurred due to a large break LOCA.
- 4KV bus 1DF is de-energized.
- The actions of E-0 are being performed.

**INITIATING CUE:**

The Unit Supervisor directs you to perform Attachment 1-K, Verification Of Automatic Actions, Step 8 to check CIB and Containment Spray status.

Facility: **Beaver Valley Unit 1** Task No.: 0362-007-01-013

Task Title: Transfer Bus 1AE from Emergency to Normal Feed JPM No.: 2007 NRC JPM S6

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

Examinee: \_\_\_\_\_ NRC Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of testing:

Simulated Performance: \_\_\_\_\_ Actual Performance:  X   
 Classroom \_\_\_\_\_ Simulator  X  Plant \_\_\_\_\_

**READ TO THE EXAMINEE**

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

- Initial Conditions:
- The plant is in Mode 3.
  - Breaker 1A10 has spuriously tripped open but has been investigated and repaired.
  - All normal 4KV busses are energized from the SSST's.
  - The #1 EDG is running and carrying loads on the 1AE Bus.
  - Breakers [1E7] 4KV Bus 1AE to 1A ACB and [1A10] 4KV bus 1A to 1AE ACB are open.

Task Standard: Bus 1AE is energized from 4KV Bus 1A.

Required Materials: NONE

General References: 1OM-36.4.Q, Transferring Emergency Busses 1AE and DF from Emergency to Normal Feed Revision 10

Handouts: 1OM-36.4.Q, Transferring Emergency Busses 1AE and DF from Emergency to Normal Feed Revision 10

Initiating Cue: The Unit Supervisor directs you to transfer Bus 1AE to Bus 1A and to shutdown the #1 EDG in accordance with 1OM-36.4.Q, Transferring Emergency Busses 1AE and DF from Emergency to Normal Feed. All Initial Conditions are met.

Time Critical Task: NO

Validation Time: 20 minutes

**Simulator Setup:** Initialize IC-226

IRF EPS 288 set to PARALLEL OPS

(Denote Critical Steps with a check mark)

**START TIME:** \_\_\_\_\_

- ✓ **Performance Step: 1** Place the Emerg Gen 1 Synchronizing Sel Sw to the ACB 1E7  
(Step IV.A.1) position.
- Standard:** The Candidate locates and places the Emerg Gen 1 Synchronizing Select switch to the ACB 1E7 position.
- Comment:**
- Performance Step: 2** Verify Ann A9-8, ACB 1E7 or 1E9 IN SYNCHRONIZING MODE  
(Step IV.A.2) is ON.
- Standard:** The Candidate locates and verifies ANN A9-8, ACB 1E7 or 1E9 IN SYNCHRONIZING MODE is ON.
- Comment:**
- Performance Step: 3** Check control switch 4KV Bus 1E to ACB 1E7 is in the after-  
(Step IV.A.3) open position (Green target).
- Standard:** The Candidate locates and checks the 4KV Bus 1E to ACB 1E7 control switch is in the after-open position. (Green Target)
- Comment:**
- ✓ **Performance Step: 4** Close breaker 1A10, 4KV Bus 1A to emergency Bus 1AE.  
(Step IV.A.4)
- Standard:** The Candidate locates and momentarily places breaker 1A10 control switch in the CLOSE position.
- Standard:** The Candidate verifies the red light above breaker 1A10 control switch is ON and white trip light is off.
- Comment:**

- Performance Step: 5** Adjust the EDG governor speed droop knob to 55 while  
(Step IV.A.5) maintaining frequency at approximately 60 Hz.
- Standard:** The candidate directs a local Operator to adjust the EDG governor speed droop knob to 55 while maintaining frequency at approximately 60 Hz.
- CUE: Inform the candidate, as local operator, that the EDG governor speed droop is set to 55**
- Comment:**
- Performance Step: 6** Using the Emerg Gen 1 governor control switch, adjust the EDG  
(Step IV.A.6) generator speed until the synchroscope needle is rotating SLOW in the FAST DIRECTION.
- Standard:** The Candidate observes the Emergency Diesel Generator synchroscope on the Vertical Board.
- Standard:** The Candidate adjusts the EMERG GEN GOVERNOR control switch as required until the synchroscope needle rotating SLOW in the FAST DIRECTION.
- Comment:**
- Performance Step: 7** Using the Emerg Gen 1 volt adjust switch, match Generator  
(Step IV.A.7) voltage to voltage on Bus 1A.
- Standard:** The Candidate locates EMERG GEN VOLTS meter and compares it to 4KV Bus 1A VOLTS meter.
- Standard:** Candidate verifies Sync volts Running Norm and Sync volts incoming Norm meters indicate equal voltages.
- Comment:**
- ✓ **Performance Step: 8** When both synchroscope lights are completely dark and  
(Step IV.A.8) synchroscope needle is at 12 o'clock position, close 4KV Bus 1AE to 1A ACB 1E7.
- Standard:** The Candidate momentarily places the breaker 1E7 control switch in the CLOSE position when the synchroscope is at 12 o'clock position.
- Standard:** The Candidate verifies the red light above breaker 1E7 control switch is ON.
- Comment:**

- Performance Step: 9** Place the EDG 1 synchronizing switch to the OFF position.  
(Step IV.A.9)
- Standard:** The Candidate places EMERG GEN 1 SYNCHRONIZING SEL SW in the OFF position.
- Performance Step:10** Verify ANN A9-8, ACB 1E78 or 1E9 IN SYCHRONIZING MODE is OFF.  
(Step IV.A.9.a)
- Standard:** The Candidate locates and verifies ANN A9-8, ACB 1E7 or 1E9 IN SYNCHRONIZING MODE is OFF.
- Comment:**
- Performance Step: 11** Perform the following to clean out the exhaust system prior to shutting down the EDG as necessary.  
(Step IV.A.10.a & b)
- Standard:** No action required.
- CUE: Inform applicant that exhaust cleaning is not necessary and proceed to step 12**
- Comment:**
- Performance Step: 12** Reduce load on the EDG by placing the Emerg Gen 1 governor control switch intermittently to the LOWER position.  
(Step IV.A.11)
- Standard:** The Candidate locates and intermittently places the EMERG GEN 1 GOVERNOR control switch in the LOWER position.
- Standard:** The Candidate monitors the following parameters during the load decrease:
- EMERG GEN 1 VOLTS
  - EMERG GEN 1 POWER FACTOR
- Comment:**

**Performance Step: 13** When the load on EDG 1 has been reduced to < 200 KW, then  
(Step IV.A.12) open EDG 1 circuit breaker ACB 1 E9.

**Standard:** When the Candidate stops reducing load when the EDG output is <200 KW as read on Emergency Generator watts meter, the Candidate momentarily places the breaker 1E9 control switch in TRIP.

The Candidate verifies the white light above breaker 1E9 control switch is ON.

**Comment:**

**Performance Step: 14** Verify the EDG 1 Motor Operated Gnd Sw DS1, is open.  
(Step IV.A.13)

**Standard:** The Candidate places EDG 1 Motor Operated Gnd Sw DS1, to open and verifies white open light is on and red closed light is off.

**Comment:**

**Terminating Cue:** When the Candidate verifies EDG 1 Motor Operated Gnd Sw DS1, is open, the evaluation for this JPM is complete.

**STOP TIME:** \_\_\_\_\_

Job Performance Measure No.: BVPS-1 2007 NRC JPM S6

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result:                      SAT        \_\_\_\_\_        UNSAT        \_\_\_\_\_

Examiner's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## INITIAL CONDITIONS:

- The plant is in Mode 3.
- Breaker 1A10 has spuriously tripped open but has been investigated and repaired.
- All normal 4KV busses are energized from the SSST's.
- The #1 EDG is running and carrying loads on the 1AE Bus.
- Breakers [1E7] 4KV Bus 1AE to 1A ACB and [1A10] 4KV bus 1A to 1AE ACB are open.

## INITIATING CUE:

The Unit Supervisor directs you to transfer Bus 1AE to Bus 1A and to shutdown the #1 EDG in accordance with 1OM-36.4.Q, Transferring Emergency Busses 1AE and DF from Emergency to Normal Feed. All Initial Conditions are met.

Facility: **BVPS Unit 1** Task No.: 0021-012-06-013

Task Title: Perform a Power Range channel test JPM No.: 2007 NRC JPM S7

K/A Reference: 015 A4.01

Examinee: \_\_\_\_\_ NRC Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of testing:

Simulated Performance: \_\_\_\_\_ Actual Performance: X

Classroom \_\_\_\_\_ Simulator X Plant \_\_\_\_\_

**READ TO THE EXAMINEE**

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

Initial Conditions:

- The plant is in Mode 1.
- N41 is due for its 92 day Nuclear Power Range channel test.
- No tests are in progress on any OT Delta T channels
- Both trains of SSPS are in service

Task Standard: N41 Power Range Channel test completed in accordance with 1OST-2.1

Required Materials: None

General References: 1OST-2.1, Nuclear Power Range Channel Test, Rev. 1

Handouts: 1OST-2.1, Nuclear Power Range Channel Test, Rev. 1

Initiating Cue: The Unit Supervisor directs you to perform 1OST-2.1, Nuclear Power Range Channel Test, for N41 only. Physical work of ECP-05-0132 is complete.

Time Critical Task: NO

Validation Time: 25 minutes

**SIMULATOR SETUP**

**Simulator Setup:** Initialize to any Mode 1 IC

## PERFORMANCE INFORMATION

(Denote Critical Steps with a check mark)

START TIME: \_\_\_\_\_

**Performance Step: 1**

If this OST is being performed to restore an inoperable power range channel to Service **AND** the plant is in MODE 1 or 2, Verify the other three power range channels are operable.

If this OST is being performed to restore an inoperable power range channel to Service **AND** the plant is in MODE 1, 2 or 3, > 500F, Refer to T.S. 3.3.1.

**Standard:**

N/A

**Comment:**

**Performance Step: 2**

If this OST is being performed in MODE 3, 4 or 5 with the reactor trip breakers closed and the rods capable of withdrawal, Verify at least three channels will remain functional throughout the test.

If this OST is being performed in MODE 3 < 500F, 4 or 5, Refer to T.S. 3.1 .10.

**Standard:**

N/A

**Comment:**

**Performance Step: 3**

If in MODE 1 above 50% power, Initiate manual logging of AFD data in accordance with 10M-49.4.L, "Axial Flux Difference Monitoring", Part A.

**Standard:**

**Cue: Another operator will log AFD**

**Comment:**

---

**PERFORMANCE INFORMATION**

---

- Performance Step: 4**      Verify the following: (Train A Logic Cabinet, Key #61)
- SSPS Train A Input Error Inhibit switch in NORMAL.
  - SSPS Train A Multiplexer Test switch in "A + B".

**Standard:**                      **Cue: Switches are in the required position**

**Comment:**

- Performance Step: 5**      Verify the following: (Train B Logic Cabinet, Key #69)
- SSPS Train B Input Error Inhibit switch in NORMAL.
  - SSPS Train B Multiplexer Test Switch in NORMAL.

**Standard:**                      **Cue: Switches are in the required position**

**Comment:**

- Performance Step: 6**      Verify the following Status Lights are OFF: (Status Panel 176)  
(May be marked N/A in MODES 3,4, 5 and 6)
- A-18, "LOOP 1 O.T. AT RUNBACK
  - B-18, "LOOP 2 O.T. AT RUNBACK
  - C-18, "LOOP 3 O.T. AT RUNBACK
  - A-20, "LOOP 1 O.T. AT RX TRIP"
  - B-20, "LOOP 2 O.T. AT RX TRIP"
  - C-20. "LOOP 3 O.T. AT RX TRIP"

**Standard:**                      Verifies each status light is extinguished on status panel 176

**Comment:**

## PERFORMANCE INFORMATION

- Performance Step: 7** Remove the PRN-41 input to IPC AFD Monitoring Program by performing Part A of Attachment A for N41. (N/A if IPC AFD Monitor is inoperable **OR** if reactor power is less than 50%)
- Standard:** **Cue: STA will perform this attachment. Continue with task.**
- Comment:**
- ✓ **Performance Step: 8** Notify the SM/US to make an entry in the Narrative Log that the test of PRN-41 is commencing **AND** Record the time of entry into Condition for T.S. 3.3.1. Time of entry into T.S. 3.3.1
- Standard:** **Cue: Role play SM/US and acknowledge request**
- Comment:**
- ✓ **Performance Step: 9** Place the Comparator Channel Defeat Switch in N41. (N46, Comparator And Rate Drawer)
- Standard:** Locates Comparator Channel Defeat switch and places in N41 position
- Comment:**
- ✓ **Performance Step: 10** Place the Upper Section Switch in PR-N41. (N50, Detector Current Comparator Drawer)
- Standard:** Locates the Upper Section switch and places in PR-N41 position
- Comment:**

## PERFORMANCE INFORMATION

- ✓ **Performance Step: 11** Place the Lower Section Switch in PR-N41. (N50, Detector Current Comparator Drawer)
- Standard:** Locates the Lower Section switch and places in PR-N41 position
- Comment:**
- ✓ **Performance Step: 12** Place the Rod Stop Bypass Switch in PR-N41. (N50, Detector Current Comparator Drawer)
- Standard:** Locates the Rod Stop Bypass switch and places in PR-N41 position.
- Comment:**
- Performance Step: 13** Verify Status Light A-14, "ROD STOP BYPASS" is ON. (Status Panel 176)
- Standard:** Determines that A-14 (Rod Stop Bypass) is lit on status panel 176
- Comment:**
- ✓ **Performance Step: 14** Place the Operation Selector Switch to DET A&B. (N-41 Power Range B Drawer)
- Standard:**
- Comment:**

---

**PERFORMANCE INFORMATION**

---

- Performance Step: 15** Verify the following:
- "CHANNEL ON TEST Drawer Status Light is ON.
  - Annunciator A4-77, "NIS CHANNEL I ON TEST, is ON
  - "NIS POWER RANGE CHANNEL 1 ON TEST, message prints out on the Sequence of Events computer printout.

**Standard:** Verifies CHANNEL ON TEST status light is lit.  
A4-77, NIS CHANNEL I ON TEST, is lit.  
NIS POWER RANGE CHANNEL 1 ON TEST, message is printed out on the Sequence of Events computer printout.

**Comment:**

**Performance Step: 16** If power is less than the P-10 setpoint (10%), Perform the following: (Otherwise N/A)

a. Verify the following:

- Status Light A-6, "PWR RNG N41 TO P10 is OFF. (Status Panel 176)
- IPC Point N0011D, "NUC PWR 1 RX TRIP PART P10 PERM", indicates RESET.

**Standard:** Determines NA and proceeds to procedure step 7

**Comment:**

## PERFORMANCE INFORMATION

**Performance Step: 17** If power is less than the Power Range Neutron Flux Low setpoint (25%), Perform the following: (Otherwise N/A)

a. Verify the following:

- Status Light A-15, "POWER RANGE LO SET P T is OFF. (Status Panel 176)
- Annunciator A4-57, "NIS POWER RANGE LOW SETPOINT NEUTRON FLUX HIGH", is OFF.
- IPC Point N0006D, "PWR RNG CHAN 1 LOW Q PARTIAL RX, indicates NOT TRIP.

**Standard:** Determines NA and proceeds to procedure step 8

**Comment:**

**Performance Step: 18** If power is less than the P-8 setpoint (30%), Perform the following: (Otherwise N/A)

a. Verify the following:

- Status Light A-8, "PWR RNG N41 TO P8", is OFF. (Status Panel 176)
- IPC Point F0495D, "RCL LOW FLOW CH 1 PART PERM P8", indicates RESET.

**Standard:** Determines NA and proceeds to procedure step 9

**Comment:**

## PERFORMANCE INFORMATION

- Performance Step: 19** If power is less than the P-9 setpoint (49%), Perform the following: (Otherwise N/A)
- a. Verify the following:
- Status Light D-17, "PWR RNG N41 TO P9", is OFF. (Status Panel 176)
  - IPC Point F0426D, "NI PWR RNGE CH 1 PART PERM P9", indicates NOT TRIP.
- Standard:** Determines NA and proceeds to procedure step 10
- Comment:**
- Performance Step: 20** Perform the test of the N-41 Overpower Rod Stop as follows:
- Verify the "OVERPOWER ROD STOP" Drawer Status Light is OFF.
- Standard:** Determines that the OVERPOWER ROD STOP status light is OFF
- Comment:**
- ✓ **Performance Step: 21** Turn Detector A **AND/OR** B Test Signal Potentiometer clockwise until the "OVERPOWER ROD STOP" Drawer Status Light is ON.
- Standard:** Turns potentiometer clockwise and verifies the OVERPOWER ROD STOP status light illuminates. Stops turning potentiometer
- Comment:**

---

 PERFORMANCE INFORMATION
 

---

**Performance Step: 22** Record the following indications for power level when the Status Light turns ON:

	<u>Indication (%)</u>	<u>Acceptance Criteria</u>	<u>Expected Value</u>
	PRN-41 Drawer % Full Power		101.5 to 104.5%
	[NI-NI-41B] % Full Power		101.5 to 104.5%
<b>Standard:</b>	Records data as indicated on panel		

**Comment:**

✓ **Performance Step: 23** Turn Detector A **AND/OR** B Test Signal Potentiometer counter-clockwise until the "OVERPOWER ROD STOP" Drawer Status Light is OFF.

**Standard:** Turns potentiometer counter-clockwise and verifies the OVERPOWER ROD STOP status light extinguishes. Stops turning potentiometer

**Comment:**

---

 PERFORMANCE INFORMATION
 

---

**Performance Step: 24** Record the following indications for power level when the Status Light turns OFF.

<u>Indication (%)</u>	<u>Acceptance Criteria</u>	<u>Expected Value</u>
PRN-41 Drawer % Full Power		99.5 to 102.5% and < trip setpoint

**Standard:** Records data as indicated on channel

**Comment:**

**Performance Step: 25** Perform the test of the Power Range Neutron Flux High Setpoint as follows:

a. Verify the following:

- Status Light A-16, POWER RANGE HI SET PT, is OFF. (Status Panel 176)
- IPC Point N0001D, "PWR RNG CHAN 1 HIGH Q PART RX, indicates NOT TRIP.
- Annunciator A4-65, "NIS POWER RANGE HIGH SETPOINT NEUTRON FLUX HIGH", is OFF.

**Standard:** Verifies A-16, POWER RANGE HI SET PT, is OFF  
Verifies IPC Point N0001D, "PWR RNG CHAN 1 HIGH Q PART RX, indicates NOT TRIP  
Verifies Annunciator A4-65, "NIS POWER RANGE HIGH SETPOINT NEUTRON FLUX HIGH", is OFF

**Comment:**

## PERFORMANCE INFORMATION

- ✓ **Performance Step: 26** Turn Detector A **AND/OR** B Test Signal Potentiometer clockwise until the "OVERPOWER TRIP HIGH RANGE" Drawer Status Light is ON.

**Standard:** Turns Detector A **AND/OR** B Test Signal Potentiometer clockwise until the "OVERPOWER TRIP HIGH RANGE" Drawer Status Light is ON. Stops turning potentiometer

**Comment:**

- Performance Step: 27** Record the following indications for power level when the Status Light turns ON:

	<u>Indication (%)</u>	<u>Acceptance Criteria</u>	<u>Expected Value</u>
PRN-41 Drawer % Full Power		≤09%	
[NI-NI-41B] % Full Power			107-110%

**Standard:** Records data as indicated on drawer

**Comment:**

- Performance Step: 28** Verify Status Light A-16, "POWER RANGE HI SET PT is ON **AND NOT** flashing. (Status Panel 176)

**Standard:** Determines that status light A-16, POWER RANGE HI SET PT is ON solid (not flashing)

**Comment:**

## PERFORMANCE INFORMATION

- Performance Step: 29** Verify Annunciator A4-65, "NIS POWER RANGE HIGH SETPOINT NEUTRON FLUX HIGH" is ON.
- Standard:** Determines Annunciator A4-65, "NIS POWER RANGE HIGH SETPOINT NEUTRON FLUX HIGH" is ON
- Comment:**
- Performance Step: 30** Verify IPC Point N0001D, PWR RNG CHAN 1 HIGH Q PARTIAL RX indicates TRIP.
- Standard:** Determines IPC Point N0001D, PWR RNG CHAN 1 HIGH Q PARTIAL RX, has gone from NOT TRIP to TRIP
- Comment:**
- ✓ **Performance Step: 31** Turn Detector A **AND/OR** B Test Signal Potentiometer counter-clockwise until the "OVERPOWER TRIP HIGH RANGE" Drawer Status Light is OFF.
- Standard:** Turns Detector A **AND/OR** B Test Signal Potentiometer counter-clockwise until the "OVERPOWER TRIP HIGH RANGE" Drawer Status Light is OFF. Stops turning potentiometer
- Comment:**

## PERFORMANCE INFORMATION

**Performance Step: 32** Record the following indication for power level when the Status Light turns OFF.

<u>Indication (%)</u>	<u>Acceptance Criteria</u>	<u>Expected Value</u>
PRN-41 Drawer % Full Power		105 to 108.5% and < trip setpoint

**Standard:** Records data as indicated on drawer

**Comment:**

**Performance Step: 33** Verify the following:

- Status Light A-16, "POWER RANGE HIGH SET PT, is OFF.
- IPC Point N0001D, "PWR RNG CHAN 1 HIGH Q PARTIAL RX indicates NOT TRIP.
- Annunciator A4-65, "NIS POWER RANGE HIGH SETPOINT NEUTRON FLUX HIGH", is OFF.

**Standard:**

- Verifies Status Light A-16, "POWER RANGE HIGH SET PT, is OFF.
- Verifies IPC Point N0001D, "PWR RNG CHAN 1 HIGH Q PARTIAL RX indicates NOT TRIP.
- Verifies Annunciator A4-65, "NIS POWER RANGE HIGH SETPOINT NEUTRON FLUX HIGH", is OFF.

**Comment:**

## PERFORMANCE INFORMATION

**Performance Step: 34** If the NIS Drawer indication for the trip setpoint exceeds the acceptance criteria, refer to Attachment B, "Measurement of the Signal to the Percent Full Power Meter". (Otherwise N/A)

**Standard:** Determines step is NA

**Comment:**

✓ **Performance Step: 35** Restore the N-41 Test Signal Potentiometers to the fully counter clockwise position:

- a. Detector A Test Signal Potentiometer
- b. Detector B Test Signal Potentiometer

**Standard:** Rotates Test signal potentiometer to fully counter-clockwise position

**Comment:**

**Performance Step: 36** Record the indication for power level:

<u>Indication (%)</u>	<u>Acceptance Criteria</u>	<u>Expected Value</u>
-----------------------	----------------------------	-----------------------

PRN-41  
Drawer %  
Full Power

**Standard:** Records data as indicated on drawer

**Comment:**

## PERFORMANCE INFORMATION

**Performance Step: 37** Perform the test of the Power Range Positive Rate Trip and Negative Rate Trip as follows: (Negative Rate Trip tested until physical work of ECP-05-0132 is performed. No longer Tech Spec surveillance.)

a. Verify the following are OFF.

- "POSITIVE RATE TRIP" Drawer Status Light.
- "NEGATIVE RATE TRIP" Drawer Status Light.
- Status Light A-13, "PWR RNG N41 + RATE". (Status Panel 176)
- Annunciator A4-69, "NIS POWER RANGE NEUTRON FLUX RATE HIGH"

**Standard:** Determines step is NA from initial conditions and proceeds to procedure step 14

**Comment:**

**Performance Step: 38** Verify status lights as follows:

a. Verify the following status lights are OFF:

- "OVERPOWER TRIP HIGH RANGE" Drawer Status Light.
- A-13, "POWER RANGE N41 + RATE". (Status Panel 176)
- A-16, "POWER RANGE HI SET PT. (Status Panel 176)

**Standard:** Determines that the following status lights are OFF:

- "OVERPOWER TRIP HIGH RANGE" Drawer Status Light.
- A-13, "POWER RANGE N41 + RATE". (Status Panel 176)
- A-16, "POWER RANGE HI SET PT. (Status Panel 176)

**Comment:**

## PERFORMANCE INFORMATION

- Performance Step: 39** If power  $\geq 25\%$ , verify the following status lights are ON:  
(Otherwise NIA)
- "OVERPOWER TRIP LOW RANGE" Drawer Status Light.
  - A-15, "POWER RANGE LO SET PT. (Status Panel 176)
- Standard:** Determines the following status lights are ON:
- "OVERPOWER TRIP LOW RANGE" Drawer Status Light.
  - A-15, "POWER RANGE LO SET PT. (Status Panel 176)
- Comment:**
- Performance Step: 40** If power  $< 25\%$ , verify the following status lights are OFF:  
(Otherwise NIA)
- "OVERPOWER TRIP LOW RANGE" Drawer Status Light.
  - A-15, "POWER RANGE LO SET PT. (Status Panel 176)
- Standard:** Determines step is NA
- Comment:**
- ✓ **Performance Step: 41** Restore PRN-41 from the test configuration as follows:
- a. Place the Operation Selector Switch in NORMAL.
- Standard:** Locates and rotates the Operation Selector Switch in NORMAL
- Comment:**

## PERFORMANCE INFORMATION

**Performance Step: 42** If switch repositioning caused a rate bistable to trip, perform the following: (Otherwise NIA)

- 1) Momentarily place the Rate Mode Switch in RESET.
- 2) Verify Status Light A-13, "POWER RANGE N41 + RATE", is OFF".

**Standard:** Determines step is NA

**Comment:**

**Performance Step: 43** Verify the following:

- "CHANNEL ON TEST Drawer Status Light is OFF
- Annunciator A4-77, "NIS CHANNEL 1 ON TEST, is OFF.
- "NIS POWER RANGE CHANNEL 1 ON TEST Sequence of Events Computer alarm condition returns to normal.

**Standard:** Determines the following:

- "CHANNEL ON TEST Drawer Status Light is OFF
- Annunciator A4-77, "NIS CHANNEL 1 ON TEST, is OFF.
- "NIS POWER RANGE CHANNEL 1 ON TEST Sequence of Events Computer alarm condition returns to normal.

**Comment:**

✓ **Performance Step: 44** Place the Rod Stop Bypass Switch in OPERATE.

**Standard:** Locates and rotates the Rod Stop Bypass Switch to the OPERATE position

**Comment:**

---

**PERFORMANCE INFORMATION**

---

- ✓ **Performance Step: 45** Place the Lower Section Switch in NORMAL.
- Standard:** Locates and places the Lower Section Switch in NORMAL
- Comment:**
- 
- ✓ **Performance Step: 46** Place the Upper Section Switch in NORMAL.
- Standard:** Locates and places the Upper Section Switch in NORMAL
- Comment:**
- 
- ✓ **Performance Step: 47** Place the Comparator Channel Defeat Switch in NORMAL.
- Standard:** Locates and places the Comparator Channel Defeat Switch in NORMAL
- Comment:**
- 
- Performance Step: 48** If power range testing is to be continued, request of the SM to evaluate the results of the Channel PRN-41 Test in order to restore the channel to OPERABLE status.
- Time of compliance with the LC0 for T.S. 3.3.1:
- Standard:** Determines step is NA. Testing will not continue
- Comment:**

PERFORMANCE INFORMATION

---

**Performance Step: 49** If no further power range testing will be performed, Notify the SM/US that the test of PRN-41 is complete.

**Standard:** Notifies SM/US that testing is complete

**Comment:** **Cue: Acknowledge report that testing is complete**

**Terminating Cue:** **When the SM/US is notified that N41 testing is complete, the evaluation for this JPM is complete**

**STOP TIME:** \_\_\_\_\_

VERIFICATION OF COMPLETION

Job Performance Measure No.: BVPS-1 2007 NRC JPM S7

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result:                      SAT        \_\_\_\_\_        UNSAT        \_\_\_\_\_

Examiner's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## INITIAL CONDITIONS:

- The plant is in Mode 1.
- N41 is due for its 92 day Nuclear Power Range channel test.
- No tests are in progress on any OT Delta T channels
- Both trains of SSPS are in service

## INITIATING CUE:

The Unit Supervisor directs you to perform 1OST-2.1, Nuclear Power Range Channel Test, for N41 only. Physical work of ECP-05-0132 is complete.

Facility: **BVPS Unit 1** Task No.: 0151-009-01-011  
 Task Title: Restore RCP CCR Cooling Following CIB JPM No.: 2007 NRCJPM S8  
 K/A Reference: 008 A4.01 (3.3/3.1)

Examinee: \_\_\_\_\_ NRC Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of testing:

Simulated Performance: \_\_\_\_\_ Actual Performance:  X   
 Classroom \_\_\_\_\_ Simulator  X  Plant \_\_\_\_\_

**READ TO THE EXAMINEE**

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

Initial Conditions: A LOCA has occurred. The operating crew tripped all RCP's when CIB actuated. SI, CIA and CIB signals have been reset.

Task Standard: Component cooling has been established to the RCP's.

Required Materials: None

General References: 1OM-53.A1.2-B, Establishing RCP CCR Cooling And Seal Injection, Issue 1C, Rev. 1

Handouts: 1OM-53.A1.2-B, Establishing RCP CCR Cooling And Seal Injection, Issue 1C, Rev. 1

Initiating Cue: The Unit Supervisor directs you to align component cooling water to the RCP's using EOP Attachment 1.2-B, Establishing RCP CCR Cooling And Seal Injection. The "A" train of river water is to be aligned to the CCR heat exchangers.

Time Critical Task: No

Validation Time: 15 minutes

**Simulator Setup:**

Reset to IC- 237

EPS11B

EPS04F

RCS02D

RCS08A, B, C

SIS03C

SIS06A

IOR X160116J

IOR X160116K

RVLIS Train A OOS

RVLIS Train B OOS

Place OOS stickers on BOTH Trains of RVLIS

(Denote Critical Steps with a check mark)

**START TIME:** \_\_\_\_\_

- √ **Performance Step: 1**      Open [MOV-1RW-106A, 114A], CCR Hx RW Series Isol. Vlvs.  
(Step 1.a.1)
- Standard:**                      Candidate locates control switches for MOV-1RW-106A, 114A and places in open position.
- Standard:**                      Candidate verifies red open light is on and green closed light is off for each valve.
- Comment:**
- 
- √ **Performance Step: 2**      Close [MOV-1RW-103A, B], 1A Hdr RPRW To Recirc Spray Hxs Isol Vlvs.  
(Step 1.a.2)
- Standard:**                      Candidate locates control switches for MOV-1RW-103A, B and places in closed position.
- Standard:**                      Candidate verifies red open light is off and green closed light is on for each valve.
- Comment:**
- 
- Performance Step: 3**      Verify [PI-1RW-113A], CCR Heat Exchanger RW Pressure To The A Header - GREATER THAN 20 PSIG.  
(Step 1.a.3)
- Standard:**                      Candidate locates and checks PI-1RW-113A is greater than 20 psig.
- Comment:**

**Performance Step: 4** Close [1CCR-18], CCR Supply Header Isolation (Aux Bldg - 735').  
(Step 2.b)

**Standard:** Candidate contacts and directs operator to locally close 1CCR-18.

**CUE:** 1CCR-18 is closed.

**Comment:**

**Performance Step: 5** Start 1 CCR Pump  
(Step 3)

**Standard:** Candidate places CCR Pump "A" Control switch to the start position.  
Verifies red light on, white light off

**Comment:**

**Performance Step: 6** Ensure CCR water supply temperature less than 105F on  
(Step 4.a) [TI-1CC-100].

**Standard:** Candidate locates and checks TI-1CC-100 indicates less than 105F.

**Comment:**

√ **Performance Step: 7** To align flow to RC-P-1A, verify open the following valves:  
(Step 4.b)

**Standard:**

Candidate opens or verifies each of the following valves:

- TV-1CC-103A, 1A RCP CCR Inlet Cnmt Isolation Valve
- TV-1CC-103A1, 1A RCP CCR Inlet Cnmt Isolation Valve
- TV-1CC-105E1, 1A RCP Motor CCR Outlet Cnmt Isolation Valve
- TV-1CC-105E2, 1A RCP Motor CCR Outlet Cnmt Isolation Valve
- TV-1CC-107E1, 1A RCP Th Barr CCR Outlet Cnmt isol vlv
- TV-1CC-107E2, 1A RCP Th Barr CCR Outlet Cnmt isol vlv
- TV-1CC-107A, 1A Th Barr CCR Outlet Isol

**Comment:**

√ **Performance Step: 8** To align flow to RC-P-1B, verify open the following valves:  
(Step 4.c)

**Standard:**

Candidate opens or verifies each of the following valves:

- TV-1CC-103B, 1B RCP CCR Inlet Cnmt Isolation Valve
- TV-1CC-103B1, 1B RCP CCR Inlet Cnmt Isolation Valve
- TV-1CC-105D1, 1B & 1C RCP Motor CCR Outlet Cnmt Isolation Valve
- TV-1CC-105D2, 1B & 1C RCP Motor CCR Outlet Cnmt Isolation Valve
- TV-1CC-107D1, 1B & 1C RCP Th Barr CCR Outlet Cnmt isol vlv
- TV-1CC-107D2, 1B & 1C RCP Th Barr CCR Outlet Cnmt isol vlv
- TV-1CC-107B, 1B Th Barr CCR Outlet Isol

**Comment:**

√ **Performance Step: 9** To align flow to RC-P-1C, verify open the following valves:  
(Step 4.d)

**Standard:**

Candidate opens or verifies each of the following valves:

- TV-1CC-103C, 1C RCP CCR Inlet Cnmt Isolation Valve
- TV-1CC-103C1, 1C RCP CCR Inlet Cnmt Isolation Valve
- TV-1CC-105D1, 1B & 1C RCP Motor CCR Outlet Cnmt Isolation Valve
- TV-1CC-105D2, 1B & 1C RCP Motor CCR Outlet Cnmt Isolation Valve
- TV-1CC-107D1, 1B & 1C RCP Th Barr CCR Outlet Cnmt isol vlv
- TV-1CC-107D2, 1B & 1C RCP Th Barr CCR Outlet Cnmt isol vlv
- TV-1CC-107C, 1C Th Barr CCR Outlet Isol

**Comment:**

√ **Performance Step: 10** Slowly open [1CCR-18], CCR Supply Header Isolation, (Aux  
(Step 5) Bldg - 735') to maintain CCR system pressure from dropping below 100 psig on [PI-1CC-100].

**Standard:**

Candidate contacts and directs operator to locally open 1CCR-18 to maintain CCR system pressure above 100 psig.

**Comment:**

**Terminating Cue:** When the Candidate contacts operator to locally open 1CCR-18, the evaluation for this JPM is complete.

**STOP TIME:** \_\_\_\_\_

JPM No.: BVPS-1 2007 NRC JPM S8

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Response: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Result: Satisfactory/Unsatisfactory

Examiner's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

---

**INITIAL CONDITIONS:** A LOCA has occurred. The operating crew tripped all RCP's when CIB actuated. SI, CIA and CIB signals have been reset.

**INITIATING CUE:** The Unit Supervisor directs you to align component cooling water to the RCP's using EOP Attachment 1.2-B, Establishing RCP CCR Cooling And Seal Injection. The "A" train of river water is to be aligned to the CCR heat exchangers.

Facility: **BVPS Unit 1** Task No.: 0201-004-01-013  
 Task Title: Respond to SFP Low Level Alarm JPM No.: 2007 NRC JPM P1  
 K/A Reference: 033 A2.03 (3.1/3.5)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance:  X  Actual Performance: \_\_\_\_\_  
 Classroom \_\_\_\_\_ Simulator \_\_\_\_\_ Plant  X

**READ TO THE EXAMINEE**

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

Initial Conditions:

- The plant is in Mode 1. Annunciator [A6-3], Spent Fuel Pool Level Low is in alarm.
- A leak is suspected and fuel pool makeup is required.
- An operator was previously dispatched to observe Spent Fuel Pool level.
- Blending to the Spent Fuel Pool is **NOT** available.
- The RWST is not on purification.

Task Standard: Makeup to the Spent Fuel Pool using primary grade water.

Required Materials: None

General References: 1OM-20.4.AAC, Spent Fuel Pool Level Low, Rev. 10

Handouts: 1OM-20.4.AAC, Spent Fuel Pool Level Low, Rev. 10

Initiating Cue: The Unit Supervisor directs you to coordinate with the Control Room to makeup to the Spent Fuel Pool using primary grade water in accordance with 1OM-20.4.AAC, beginning at step 3.c. Use of any keys will be simulated.

Time Critical Task: No

Validation Time: 15 minutes

(Denote Critical Steps with a check mark)

**START TIME:** \_\_\_\_\_

**Performance Step: 1** If the RWST is on purification recirculation AND RWST cooling  
(Step 3.c.1) through either [1QS-MR-1A(B)], or [1QS-E-1A(B)], is NOT in service, Stop any running [1QS-P-2A(2B)], Refueling Water Recirculating Pump, to prevent dead heading.

**Standard:** Candidate contacts the Control Room to determine if the RWST is on purification.

**CUE: The RWST is not on purification.**  
**(From initial conditions)**

**Comment:**

**Performance Step: 2** Using Control Room Status Prints, Verify Open [1BR-543], Pri  
(Step 3.c.2) Makeup to Fuel Pool Clg Isol (Aux Bldg 722', E Pipe Trench).

**Standard:** Candidate contacts the Control Room to verify 1BR-543 is in the open position.

**CUE: Control Room reports that 1BR-543 is open.**

**Comment:**

√ **Performance Step: 3** Verify Closed [1QS-37], Refuel Water to Fuel Pool Isol  
(Step 3.c.3) (Safeguards 735', W of RWST Coolers).

**Standard:** Candidate locates and verifies 1QS-37 is closed.

**CUE: 1QS-37 is closed.**

**Comment:**

- √ **Performance Step: 4**      Verify Closed [1PC-146], Fuel Pool Purification Sys to RWST  
(Step 3.c.4)                      Recirc Sys Isol (Fuel Bldg 735').  
**Standard:**                      Candidate locates and verifies 1PC-146 is closed.

**CUE: 1PC-146 is closed.**

**Comment:**

- √ **Performance Step: 5**      Open [1PC-118], Pri Water Sup to Spent Fuel Pool Isol (Fuel  
(Step 3.c.5)                      Bldg 735' (745')).  
**Standard:**                      Candidate locates and opens 1PC-118.

**CUE: 1PC-118 is open.**

**Comment:**

- √ **Performance Step: 6**      Throttle Open [1PC-145], Fuel Pool Clg Sys To RWST Recirc  
(Step 3.c.6)                      Sys Isol (Fuel Bldg 735').  
**Standard:**                      Candidate locates and throttles open 1PC-145.

**CUE: 1PC-145 is throttled open.**

**NOTE: After the valve has been opened, inform the Candidate that the level in the Spent Fuel Pool is slowly rising.**

**Comment:**

**Terminating Cue:** When the Candidate reports that 1PC-145 is throttled open, the evaluation for this JPM is complete.

**STOP TIME:** \_\_\_\_\_

JPM No.: BVPS-1 2007 NRC JPM P1

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Response: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Result: Satisfactory/Unsatisfactory

Examiner's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**INITIAL CONDITIONS:**

- The plant is in Mode 1. Annunciator [A6-3], Spent Fuel Pool Level Low is in alarm.
- A leak is suspected and fuel pool makeup is required.
- An operator was previously dispatched to observe Spent Fuel Pool level.
- Blending to the Spent Fuel Pool is **NOT** available.
- The RWST is not on purification.

**INITIATING CUE:**

The Unit Supervisor directs you to coordinate with the Control Room to makeup to the Spent Fuel Pool using primary grade water in accordance with 1OM-20.4.AAC, beginning at step 3.c. Use of any keys will be simulated.

Facility: **BVPS Unit 1** Task No.: 0201-004-01-013  
 Task Title: Respond to SFP Low Level Alarm JPM No.: 2007 NRC JPM P1  
 K/A Reference: 033 A2.03 (3.1/3.5)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance:  X  Actual Performance: \_\_\_\_\_  
 Classroom \_\_\_\_\_ Simulator \_\_\_\_\_ Plant  X

**READ TO THE EXAMINEE**

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

Initial Conditions:

- The plant is in Mode 1. Annunciator [A6-3], Spent Fuel Pool Level Low is in alarm.
- A leak is suspected and fuel pool makeup is required.
- An operator was previously dispatched to observe Spent Fuel Pool level.
- Blending to the Spent Fuel Pool is **NOT** available.
- The RWST is not on purification.

Task Standard: Makeup to the Spent Fuel Pool using primary grade water.

Required Materials: None

General References: 1OM-20.4.AAC, Spent Fuel Pool Level Low, Rev. 10

Handouts: 1OM-20.4.AAC, Spent Fuel Pool Level Low, Rev. 10

Initiating Cue: The Unit Supervisor directs you to coordinate with the Control Room to makeup to the Spent Fuel Pool using primary grade water in accordance with 1OM-20.4.AAC, beginning at step 3.c. Use of any keys will be simulated.

Time Critical Task: No

Validation Time: 15 minutes

(Denote Critical Steps with a check mark)

**START TIME:** \_\_\_\_\_

**Performance Step: 1** If the RWST is on purification recirculation AND RWST cooling  
(Step 3.c.1) through either [1QS-MR-1A(B)], or [1QS-E-1A(B)], is NOT in service, Stop any running [1QS-P-2A(2B)], Refueling Water Recirculating Pump, to prevent dead heading.

**Standard:** Candidate contacts the Control Room to determine if the RWST is on purification.

**CUE: The RWST is not on purification.**  
**(From initial conditions)**

**Comment:**

**Performance Step: 2** Using Control Room Status Prints, Verify Open [1BR-543], Pri  
(Step 3.c.2) Makeup to Fuel Pool Clg Isol (Aux Bldg 722', E Pipe Trench).

**Standard:** Candidate contacts the Control Room to verify 1BR-543 is in the open position.

**CUE: Control Room reports that 1BR-543 is open.**

**Comment:**

√ **Performance Step: 3** Verify Closed [1QS-37], Refuel Water to Fuel Pool Isol  
(Step 3.c.3) (Safeguards 735', W of RWST Coolers).

**Standard:** Candidate locates and verifies 1QS-37 is closed.

**CUE: 1QS-37 is closed.**

**Comment:**

- √ **Performance Step: 4**      Verify Closed [1PC-146], Fuel Pool Purification Sys to RWST  
(Step 3.c.4)                      Recirc Sys Isol (Fuel Bldg 735').  
**Standard:**                      Candidate locates and verifies 1PC-146 is closed.

**CUE: 1PC-146 is closed.**

**Comment:**

- √ **Performance Step: 5**      Open [1PC-118], Pri Water Sup to Spent Fuel Pool Isol (Fuel  
(Step 3.c.5)                      Bldg 735' (745')).  
**Standard:**                      Candidate locates and opens 1PC-118.

**CUE: 1PC-118 is open.**

**Comment:**

- √ **Performance Step: 6**      Throttle Open [1PC-145], Fuel Pool Clg Sys To RWST Recirc  
(Step 3.c.6)                      Sys Isol (Fuel Bldg 735').  
**Standard:**                      Candidate locates and throttles open 1PC-145.

**CUE: 1PC-145 is throttled open.**

**NOTE: After the valve has been opened, inform the  
Candidate that the level in the Spent Fuel Pool is  
slowly rising.**

**Comment:**

**Terminating Cue:** When the Candidate reports that 1PC-145 is throttled open, the evaluation for this JPM is complete.

**STOP TIME:** \_\_\_\_\_

JPM No.: BVPS-1 2007 NRC JPM P1

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Response: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Result: Satisfactory/Unsatisfactory

Examiner's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**INITIAL CONDITIONS:**

- The plant is in Mode 1. Annunciator [A6-3], Spent Fuel Pool Level Low is in alarm.
- A leak is suspected and fuel pool makeup is required.
- An operator was previously dispatched to observe Spent Fuel Pool level.
- Blending to the Spent Fuel Pool is **NOT** available.
- The RWST is not on purification.

**INITIATING CUE:**

The Unit Supervisor directs you to coordinate with the Control Room to makeup to the Spent Fuel Pool using primary grade water in accordance with 1OM-20.4.AAC, beginning at step 3.c. Use of any keys will be simulated.

## PERFORMANCE INFORMATION

Facility: **BVPS Unit-1** Task No.: 0011-001-01-043  
 Task Title: Startup a Rod Drive MG Set JPM No.: 2007 NRC JPM P2  
 K/A Reference: 001 A4.08 3.7/3.4

Examinee: NRC Examiner:  
 Facility Evaluator: Date:  
Method of testing:  
 Simulated Performance:  X  Actual Performance: \_\_\_\_\_  
 Classroom \_\_\_\_\_ Simulator \_\_\_\_\_ Plant  X

**READ TO THE EXAMINEE**

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

Initial Conditions:
 

- The plant is in Mode 3 preparing for startup, and the full-length rod control system is being started up.
- The #1 MG set is currently operating.
- 1OM-1.4.Y, Administrative Guidelines for Closing Reactor Trip/Bypass Breakers, has been completed.

Task Standard: #2 Rod Drive MG set is running with the generator output breaker closed.

Required Materials: 1OM-1.4.B, Full Length Rod Control System Startup Revision 20

General References: 1OM-1.4.B, Full Length Rod Control System Startup Revision 20

Handouts: 1OM-1.4.B, Full Length Rod Control System Startup Revision 20

Initiating Cue: The Unit Supervisor directs you to continue with the procedure and startup the #2 rod drive MG set per procedure 1OM-1.4.B Part B beginning with Step 7, "Full Length Rod Control System Startup". All previous steps have been completed.

Time Critical Task: NO

PERFORMANCE INFORMATION

---

Validation Time: 10 minutes

## PERFORMANCE INFORMATION

*(Denote Critical Steps with a check mark)*

START TIME: \_\_\_\_\_

**EXAMINER NOTE:** During the performance of this JPM, no cabinet, switchgear or cubicle will be opened.

**Performance Step: 1.** Obtain a copy of 1OM-1.4B, Full Length Rod Control System Startup.

**Standard:** Candidate locates 1OM-1.4B, Full Length Rod Control System Startup.

**Comment:**

✓ **Performance Step: 2** Start #2 Rod Drive MG Set by closing its associated motor circuit breaker.

**Standard:** Candidate locates #2 Motor Circuit Breaker control switch.  
Simulates taking it to the closed position.

**EXAMINER CUE:** The red light illuminates as a result of this action.

**Comment:**

✓ **Performance Step: 3** Depress Field Flash pushbutton.

**Standard:** Candidate locates field flash pushbutton.  
Simulates depressing it until the voltage stops rising (approx. 235 VAC) and then releases the pushbutton.

**EXAMINER CUE:** Voltage indicates 260 VAC.

**Comment:**

PERFORMANCE INFORMATION

---

**Performance Step: 4** Complete 1OM-1.4.Y.

**Standard:**

**EXAMINER CUE:** 1OM-1.4.Y has been completed. (From initial conditions)

**Comment:**

**Performance Step: 5** Close Reactor Trip Breakers

**Standard:**

Candidate contacts control room to close Reactor Trip Breakers

**EXAMINER CUE:** The Reactor Trip Breakers are closed.

**Comment:**

**Performance Step: 6** Place the Generator Circuit Breaker control switch to close.

**Standard:**

Candidate locates #2 MG set Generator Circuit Breaker control switch and places it in close position.

**EXAMINER CUE:** Generator Circuit Breaker control switch indicator flag is red and green indicating light is on.

**Comment:**

VERIFICATION OF COMPLETION

Job Performance Measure No.: BVPS-1 2007 NRC JPM P2

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result:                      SAT      \_\_\_\_\_      UNSAT      \_\_\_\_\_

Examiner's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## INITIAL CONDITIONS:

- The plant is in Mode 3 preparing for startup, and the full-length rod control system is being started up.
- The #1 MG set is currently operating.
- 1OM-1.4.Y, Administrative Guidelines for Closing Reactor Trip/Bypass Breakers, has been completed.

## INITIATING CUE:

The Unit Supervisor directs you to continue with the procedure and startup the #2 rod drive MG set per procedure 1OM-1.4.B Part B beginning with Step 7, "Full Length Rod Control System Startup". All previous steps have been completed.

Facility: **BVPS Unit 1** Task No.: 0362-005-06-013  
 Task Title: Locally Start the No. 1 (No. 2)  
Emergency Diesel Generator JPM No.: 2007 NRC JPM P3  
 K/A Reference: 064 A4.01 (4.0/4.3) 064 A3.06 (3.3/3.4)  
 055 EA.2.03 (3.9/4.7)

Examinee: NRC Examiner:  
 Facility Evaluator: Date:  
Method of testing:  
 Simulated Performance:  X  Actual Performance: \_\_\_\_\_  
 Classroom \_\_\_\_\_ Simulator \_\_\_\_\_ Plant  X

**READ TO THE EXAMINEE**

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

Initial Conditions: A station blackout has occurred. ECA-0.0, "Loss Of All 4KV Emergency Power" is in effect requiring local actions to restore emergency AC power. [1WR-P-1A(C)] or ([1WR-P-1B(C)], RPRW Pump is in AUTO.  
 Task Standard: Locally start the No. 1 (or No. 2) EDG and energize the AE (or DF) bus.  
 Required Materials: Key 48 (Simulated)  
 General References: 1OM-53A.1.2-E, Local Action To Restore AC Power, Issue 1C, Rev. 3  
 Handouts: 1OM-53A.1.2-E, Local Action To Restore AC Power, Issue 1C, Rev. 3  
 Initiating Cue: The Unit Supervisor directs you to locally start the No. 1 (or No. 2) Emergency Diesel Generator and energize the AE (or DF) bus using EOP Attachment A.1.2-E, "Local Action To Restore AC Power." Use of any keys will be simulated.  
 Time Critical Task: No  
 Validation Time: 20 minutes

(Denote Critical Steps with a check mark)

**NOTE:** This JPM is designed to be used for either diesel generator. During Protected Train "B" weeks, direct the Candidate to start the No. 1 EDG. During Protected Train "A" weeks, direct the Candidate to start the No. 2 EDG.

**START TIME:** \_\_\_\_\_

**Performance Step: 1** IF Diesel Generator 1 (or 2) is to be started, THEN place  
(Step 1.a.(or b)) [1WR-P-1A (C)] (or [1WR-P-1B (C)]), RPRW Pump in AUTO.  
**Standard:** No action required per the JPM Initial Conditions.

**CUE:** If asked, inform the Candidate to refer to the JPM Initial Conditions.

**Comment:**

**Performance Step: 2** Obtain Key 48 for EDG Engine Control Panel  
(Step 2)  
**Standard:** Candidate locates Key 48.

**CUE:** Use of the key is simulated.

**Comment:**

**Performance Step: 3**      Establish Communications Between Diesel Generator 1(2) Room  
(Step 3)                      And Control Room.

**Standard:**                      Candidate contacts the Control Room via Page Party or PAX.

**Comment:**

**Performance Step: 4**      Clear All Start Failure Alarms On [PNL-EE-EG-1A(2A)] (Diesel  
(Step 4)                      Generator 1(2) Room)

Candidate verifies no start failure alarms are lit. (Candidate may depress pushbutton to clear all alarms.)

**CUE: No alarms are present.**

**Comment:**

√ **Performance Step: 5**      With Key 48, Place Selector Switch To LOCAL START on  
(Step 5)                      [PNL-EE-EG-1(2)]

**Standard:**                      Candidate locates Selector Switch, inserts key and places in the  
LOCAL position.

**CUE: Selector Switch is in LOCAL.**

**Comment:**

- √ **Performance Step: 6** Prime Diesel Fuel System By Pressing FUEL PRIME pushbutton  
(Step 6) On [PNL-EE-EG-1(2)]  
**Standard:** Candidate locates and presses the FUEL PRIME pushbutton.

**Comment:**

- √ **Performance Step: 7** Depress ENGINE START Pushbutton On [PNL-EE-EG-1(2)] And  
(Step 7) Maintain Pushbutton Depressed Until The Diesel Starts And Is  
Self-Sustaining, THEN Release Pushbutton  
**Standard:** Candidate locates and depresses the local start pushbutton until  
the diesel starts and is self-sustaining.

**CUE: The diesel generator is running.**

**CUE: Inform the Candidate that engine speed is 800 rpm.**

**Comment:**

- √ **Performance Step: 8** Adjust Diesel Generator Speed Using Governor "Speed Setting"  
(Step 8) Knob To And Operating Speed of 900 RPM  
**Standard:** Candidate locates the "Speed Setting" knob and raises engine  
speed to approximately 900 rpm.

**CUE: Engine speed is 900 rpm.**

**Comment:**

**Performance Step: 9**      Verify DG Output Voltage on [PNL-DIGEN-1(2)]  
(Step 9)  
**Standard:**              Candidate locates EDG output voltmeter and verifies voltage.

**CUE:**    EDG output voltage indicates ZERO volts.

**Comment:**

**Performance Step: 10**      IF the automatic field flash has failed, THEN request Control  
(Step 9.a)                      Room operator to flash the diesel generator from BB-C.  
**Standard:**                      Candidate contacts the Control Room and requests operator to  
flash the diesel generator.

**CUE:**    The field is flashed and voltage is rising.

**Comment:**

**Performance Step: 11**      IF the Emergency Bus Has Been Energized, THEN RETURN To  
(Step 10)                      Procedure And Step In Effect  
**Standard:**                      Candidate contacts the Control Room and requests the status of  
the emergency bus.

**CUE:**    Control Room reports that the emergency bus is  
NOT energized.

**Comment:**

**Performance Step: 12** IF The Emergency Bus Has NOT Been Energized, THEN Close  
(Step 11) [ACB-1E9(1F9)], 1(2) Emerg Gen Circuit Breaker From Control Room

**Standard:** Candidate contacts the Control Room to remotely close ACB-1E9(1F9).

**CUE:** ACB-1E9(1F9) will NOT close, you are to locally close the breaker.

**Comment:**

√ **Performance Step: 13** IF [ACB-1E9(1F9)] can NOT be closed remotely, THEN locally  
(Step 11.a) close [ACB-1E9(1F9)], Emerg Gen 1(2) Circuit Breaker To Bus 4KVS-1AE(1DF) (Service Bldg - 713')

**Standard:** Candidate locates and closes ACB-1E9(1F9) using the close latch. (pulling the close lever inside the breaker cubicle)

**Standard:** Candidate verifies red closed light is lit.

**CUE:** Breaker 1E9(1F9) is closed.

**Comment:** NOTE: If candidate attempts to close the breaker with the control switch on the front of the breaker panel, provide the Cue that the breaker is still OPEN.

<b>Terminating Cue:</b> When the Candidate verifies that breaker 1E9(1F9) is closed, the evaluation for this JPM is complete.
---

**STOP TIME:** \_\_\_\_\_

JPM No.: BVPS-1 2007 NRC JPM P3

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Response: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Result: Satisfactory/Unsatisfactory

Examiner's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**INITIAL CONDITIONS:** A station blackout has occurred. ECA-0.0, "Loss Of All 4KV Emergency Power" is in effect requiring local actions to restore emergency AC power. [1WR-P-1A(C)] or ([1WR-P-1B(C)], RPRW Pump is in AUTO.

**INITIATING CUE:** The Unit Supervisor directs you to locally start the No. 1 (or No. 2) Emergency Diesel Generator and energize the AE (or DF) bus using EOP Attachment A.1.2-E, "Local Action To Restore AC Power." Use of any keys will be simulated.