

Facility: **BVPS Unit 2** Task No.:

Task Title: Perform a QPTR Manual Calculation JPM No.: 2002 NRC A1a RO

K/A Reference: 015000A1.04 (3.5/3.7)  
015000A4.02 (3.9/3.9)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

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

Classroom  X  Simulator \_\_\_\_\_ 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 at 80% power.

- The plant computer is NOT available.
- All power range channels are operable.
- Normalization factors have been provided by Reactor Engineering.

Task Standard: QPTR calculation completed and compared to Acceptance Criteria.

Required Materials: Calculator

General References: 2OST-2.4A, Quadrant Power Tilt Ratio Manual Calculation, Rev. 4

Handouts: 2OST-2.4A, Rev. 4  
QPTR Parameter Sheet

Initiating Cue: The Unit Supervisor directs you to perform a QPTR manual calculation and report the results.

Time Critical Task: No

Validation Time: 10 minutes

(Denote Critical Steps with an asterisk)

**NOTE:** The order of QPTR calculation does not have to follow the order of the procedure as long as the method of calculation is correct.

**CUE:** Provide Candidate with a copy of 2OST-2.4A and QPTR Parameter Sheet.

**Performance Step: 1** Record normalization factors on Data Sheet 1.

**Standard:** No action required (values are pre-recorded).

**Comment:**

**Performance Step: 2** Obtain upper and lower quadrant excore nuclear instrument detector outputs for each quadrant.

**Standard:** Locates detector current outputs and records on Data Sheet 1.

**Comment:**

(Denote Critical Steps with an asterisk)

**NOTE:** In the following steps, the Candidate should not be evaluated UNSAT for a math error only, as long as the method of calculation is correct.

**Performance Step: 3** Multiply each detector current reading by its normalization factor to obtain a corrected current.

**Standard:** Calculates corrected current.

Records the following approximate numbers for corrected currents:

N41A = 7.263	N41B = 7.342
N42A = 7.235	N42B = 6.561
N43A = 7.198	N43B = 7.903
N44A = 6.942	N44B = 7.036

**Comment:**

**Performance Step: 4** Determine average upper quadrant and average lower quadrant excure NI detector output.

**Standard:** Calculates average currents.

Records the following approximate numbers for average:

Upper Detectors = 7.159      Lower Detectors = 7.211

**Comment:**

(Denote Critical Steps with an asterisk)

- \* **Performance Step: 5** Divide each quadrant excore NI detector output by the appropriate (Upper or Lower) average NI detector output.

**Standard:**

Calculates tilt ratios.

Records the following approximate numbers for tilt ratios:

N41A = 1.015

N41B = 1.018

N42A = 1.011

N42B = 0.909

N43A = 1.005

N43B = 1.096

N44A = 0.970

N44B = 0.976

**Comment:**

- \* **Performance Step: 6** Compare highest Quadrant Power Tilt Ratio to Acceptance Criteria.

**Standard:**

Determines that the QPTR exceeds 1.02 on N43B (1.096).

**Comment:**

**Terminating Cue:**

When the Candidate reports that the QPTR does not meet the Acceptance Criteria, the evaluation for this JPM is complete.

Job Performance Measure No.: 2002 NRC A1a RO

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 Unit is in Mode 1 at 80% power.

- The plant computer is NOT available.
- All power range channels are operable.
- Normalization factors have been provided by Reactor Engineering.

INITIATING CUE:

The Unit Supervisor directs you to perform a QPTR manual calculation and report the results.

# Answer Sheet

**DATA SHEET 1**

**MANUAL QPTR CALCULATION**

**UPPER DETECTORS**

	<b>Current (Uncor.)</b>	<b>Norm Factor</b>	<b>Current (Cor.)</b>	<b>Tilt Ratio</b>
N41A	125	0.0581	7.263	1.015
N42A	136	0.0532	7.235	1.011
N43A	129	0.0558	7.198	1.005
N44A	156	0.0445	6.942	0.970
			<b>SUM</b> 28.638	
			<b>AVG</b> 7.159	

**LOWER DETECTORS**

	<b>Current (Uncor.)</b>	<b>Norm Factor</b>	<b>Current (Cor.)</b>	<b>Tilt Ratio</b>
N41B	152	0.0483	7.342	1.018
N42B	135	0.0486	6.561	0.909
N43B	145	0.0545	7.903	1.096
N44B	143	0.0492	7.036	0.976
			<b>SUM</b> 28.842	
			<b>AVG</b> 7.211	

Performed By \_\_\_\_\_ / \_\_\_\_ / \_\_\_\_ (Init/Time/Date)

Verified By \_\_\_\_\_ / \_\_\_\_ (Init/Date)

**2OST-2.4A**  
**QPTR Parameter Sheet**

**UPPER DETECTORS**

	Current
N41A	125
N42A	136
N43A	129
N44A	156

**LOWER DETECTORS**

	Current
N41B	152
N42B	135
N43B	145
N44B	143

Facility: **BVPS Unit 2** Task No.: 0481-007-03-013  
 Task Title: Complete Operating Logs JPM No.: 2002 NRC A1b RO  
 K/A Reference: 2.2.12 (3.0)

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 at 100% power with all systems in their normal operating alignment.  
 Task Standard: Determine out-of-specification reading(s).  
 Required Materials: None  
 General References: 2OM-54.3.L5, Surveillance Verification Log, Rev. 39  
 Handouts: 2OM-54.3.L5, Rev. 39 (partial copy)  
 Initiating Cue: The Unit Supervisor directs you to complete the 0000 to 0800 entries of the L-5, Surveillance Verification Log and report your results.  
 Time Critical Task: No  
 Validation Time: 15 minutes

(Denote Critical Steps with an asterisk)

**Performance Step: 1**      Verify all rods are  $\geq 225$  steps on the Group Demand Counters  
(No. 1 - 16)              AND DRPI is within  $\pm 12$  steps of the Group Demand Counters;  
                                 otherwise, N/A signoffs below and perform L5-3 through L5-7.

**Standard:**                      Locates and verifies control rods are  $\geq 225$  steps and DRPI is  
                                 within  $\pm 12$  steps of the group demand counters.  
                                 Continues with entry No. 47 on page 8.

**NOTE: Pages L5-3 through L5-7 are omitted.**

**Comment:**

**Performance Step: 2**      Record and verify that Containment Pressure Indicators agree  
(No. 47)                      within 3.0 PSIG of one another.

**Standard:**                      Locates 2LMS\*PI950, PI951, PI952, PI953 and records  
                                 containment pressure readings.  
                                 Verifies each agree within 3 psig.

**Comment:**

**Performance Step: 3**      Record the Containment Wide Range Pressure Recorder  
(No. 47a)                      [2LMS-PR106] pressure.

**Standard:**                      Locates 2LMS-PR106 and records containment wide range  
                                 pressure reading.

**Comment:**

(Denote Critical Steps with an asterisk)

**Performance Step: 4**      Verify Accumulator Level/Pressure High/Low Annunciator A1-4A  
(No. 28 - 33)              is NOT ILLUMINATED due to a valid alarm.

**Standard:**                      Locates and verifies annunciator A1-4A is NOT in alarm.

**Comment:**

\* **Performance Step: 5**      Record Accumulator level and pressure, verify the two indicators  
(No. 28 - 33)              on each accumulator agree within 5% for level, 30 PSIG for  
press.

**Standard:**                      Locates and records accumulator level indications, and  
determines that 2SIS-TK-21A level channels indicate greater  
than the 5% allowance.

Locates and records accumulator pressure indications and  
verifies all are within 30 psig.

**Comment:**

**Performance Step: 6**      Verify accumulator TK21A, B, C outlet isolation valves  
(No. 35)                      [2SIS\*MOV865A,B,C] are open by observing the red Open lights  
are ON.

**Standard:**                      Locates and verifies that that accumulator outlet isolation valves  
are open (red lights are ON).

**Comment:**

(Denote Critical Steps with an asterisk)

**Performance Step: 7**  
(No. 35a)      Verify accumulator TK21A, B, C outlet isolation valves [2SIS\*MOV865A,B,C] control circuit power is disconnected by removal of the plugs in the lock out jack from the circuits (Window A1-4B).

**Standard:**      Locates and verifies that that accumulator control power is disconnected by absence of A1-4B.

**Comment:**

**Performance Step: 8**  
(No. 50)      Record the Reactor Containment Sump narrow range level indications and verify level is  $\leq 10.75$  inches.

**Standard:**      Locates 2DAS\*LI220 and LI222 and verifies reactor containment sump narrow range level indicates  $\leq 10.75$  inches.

**Comment:**

\* **Performance Step: 9**      Informs Unit Supervisor of results.

**Standard:**      Reports out-of-specification accumulator levels and applicability of T.S. 4.5.1.a.1.

**Comment:**

**Terminating Cue:**      When the Candidate informs the Unit Supervisor of the results, the evaluation for this JPM is complete.

Job Performance Measure No.: 2002 NRC A1b RO

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 at 100% power with all systems in their normal operating alignment.

**INITIATING CUE:** The Unit Supervisor directs you to complete the 0000 to 0800 entries of the L-5, Surveillance Verification Log and report your results.

SURVEILLANCE VERIFICATION LOG

Operating Modes 1, 2, 3, 4			DATE Today											
			Performed											
No.	Surveillance (Required every 12 hours unless noted)	Tech. Spec.	0000 0800	0800 1600	1600 2400									
28 through 33 *	2SIS-TK21C	[2SIS-LI928] [L0630A]	%											
		[2SIS-LI930] [L0631A]	%											
		[2SIS-PI929] [P0630A]	PSIG											
		[2SIS-PI931] [P0631A]	PSIG											
	*Required in MODES 1, 2, 3 when pressurizer pressure above 1000 psig.													
35 *	Verify accumulator TK21A, B, C outlet isolation valves [2SIS*MOV865A,B,C] are open by observing the red Open lights are ON on BB-A	4.5.1.a.2												
	*Required in Modes 1, 2 & 3 when pressurizer pressure above 1000 psig.													
35a *	Verify accumulator TK21A, B, C outlet isolation valves [2SIS*MOV865A,B,C] control circuit power is disconnected by removal of the plugs in the lock out jack from the circuits (Window A1-4B)	4.5.1.c												
	*Required in Modes 1, 2 & 3 when pressurizer pressure above 1000 psig.													
50	Record the Reactor Containment Sump narrow range level indications and verify level is $\leq 10.75$ inches	4.4.6.2.a.4												
	[2DAS*LI220]	IN												
	[2DAS*LI222]	IN												
REMARKS:														
<table style="width:100%; border:none;"> <tr> <td style="width:33%; border:none;">START / STOP</td> <td style="width:33%; border:none;">START / STOP</td> <td style="width:33%; border:none;">START / STOP</td> </tr> <tr> <td style="border:none;">0000 - 0800</td> <td style="border:none;">0800 - 1600</td> <td style="border:none;">1600 - 2400</td> </tr> <tr> <td style="border:none;">SRO/DESIGNEE</td> <td style="border:none;">DATE</td> <td></td> </tr> </table>						START / STOP	START / STOP	START / STOP	0000 - 0800	0800 - 1600	1600 - 2400	SRO/DESIGNEE	DATE	
START / STOP	START / STOP	START / STOP												
0000 - 0800	0800 - 1600	1600 - 2400												
SRO/DESIGNEE	DATE													

Facility: **BVPS Unit 2** Task No.: 0481-014-03-013  
 Task Title: Perform AC Sources Alignment Verification JPM No.: 2002 NRC A2 RO  
 K/A Reference: 2.2.12 (3.0)

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 at 100% power with all systems in their normal operating alignment.  
 • The 2-1 Emergency Diesel Generator was declared inoperable and removed from service 20 minutes ago.  
 • 2OST-36.7 is in progress and Train "A" equipment has been verified.

Task Standard: Candidate correctly completes Data Sheet 1 and informs the Unit Supervisor to refer to Technical Specifications.

Required Materials: None

General References: 2OST-36.7, Offsite To Onsite Power Distribution System Breaker Alignment Verification, Rev. 8

Handouts: 2OST-36.7, Rev. 8 (markup copy)

Initiating Cue: The Unit Supervisor directs you to perform 2OST-36.7 for Train "B" equipment only.

Time Critical Task: No

Validation Time: 10 minutes

(Denote Critical Steps with an asterisk)

**NOTE: Candidate may complete sign-offs for Initial Conditions. These steps are not part of the JPM.**

**Performance Step: 1**      138KV OCB 94  
**Standard:**                Locates OCB 94 indication and verifies breaker is closed.  
                                      Red light is ON.

**Comment:**

**Performance Step: 2**      2B SSST Volt. Sel.  
**Standard:**                Locates 2B SSST voltage indications and records values.

**Comment:**

\* **Performance Step: 3**      4KV Bus 2D ACB 342B  
**Standard:**                Locates ACB 342 breaker indication and determines that the  
                                      neon lamp is NOT lit.

**CUE:**      If the Candidate initiates or requests a bulb check,  
                                      inform the Candidate that the bulb check is SAT.

**CUE:**      If necessary, direct the Candidate to complete the  
                                      remainder of Data Sheet 1.

**Comment:**

(Denote Critical Steps with an asterisk)

**Performance Step: 4** 4KV Bus 2D ACB 2D10

**Standard:** Locates ACB 2D10 indication and verifies breaker is closed.  
Red light is ON.

**Comment:**

**Performance Step: 5** 4KV Bus 2D ACB 2F7

**Standard:** Locates ACB 2F7 indication and verifies breaker is closed.  
Red light is ON.

**Comment:**

\* **Performance Step: 6** Refers to Acceptance Criteria.

**Standard:** Informs Unit Supervisor that Acceptance Criteria is NOT met and to refer to T.S. 3.8.1.1 or 3.8.1.2.

**CUE:** If necessary, prompt the Candidate to supply the information regarding T.S. applicability.

**Comment:**

**Terminating Cue:** When the Candidate reports the results to the Unit Supervisor, the evaluation for this JPM is complete.

Job Performance Measure No.: 2002 NRC A2 RO

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 at 100% power with all systems in their normal operating alignment.

- The 2-1 Emergency Diesel Generator was declared inoperable and removed from service 20 minutes ago.
- 2OST-36.7 is in progress and Train "A" equipment has been verified.

**INITIATING CUE:**

The Unit Supervisor directs you to perform 2OST-36.7 for Train "B" equipment only.

Facility: **BVPS Unit 2** Task No.: N/A

Task Title: Radiological Controls Administrative Questions JPM No.: 2002 NRC A3 RO

K/A Reference: 2.3.10 (2.9)  
2.3.1 (2.6)

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

Facility Evaluator: N/A Date: \_\_\_\_\_

Method of testing:

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

Classroom  Simulator \_\_\_\_\_ 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: N/A

Task Standard: Both questions answered correctly.

Required Materials: None

General References: 1/2-ADM-1601, Radiation Protection Standards, Rev. 5  
1/2-ADM-1630, Radiation Worker Practices, Rev. 3

Handouts: None

Initiating Cue: N/A

Time Critical Task: No

Validation Time: 5 minutes

**ANSWER KEY****RO Admin A3****Question 1**

You and a co-worker are isolating a pump with a leaking seal in a high noise area in the plant. Ten minutes after arriving at the pump your alarming dosimeter (ARD) sounds a dose rate alarm. Your co-worker's ARD is not alarming.

Place the following actions in the correct order of performance in response to the ARD alarm.

- A. Note the indicated dose rate
- B. Notify Radiation Protection Technician
- C. Leave the work area
- D. Have your co-worker check their indicated dose rate

**ANSWER:** Correct order is A, D, C & B.

**Reference:** 1/2-ADM-1630, Radiation Worker Practices, Rev. 3

**ANSWER KEY****RO Admin A3****Question 2**

An evolution that is expected to take several hours must be performed in a Radiation Area. The individual who will perform the activity has a year to date exposure of 3160 mR (TEDE). The dose rate in the area where the emergency evolution will be performed is 80 mR/hr, and there is no airborne radioactivity present.

Determine the worker's **MAXIMUM** stay time while performing the activity to prevent exceeding any administrative dose guidelines.

**ANSWER:**

4000 mR Administrative Exposure Limit

3160 mrem YTD Exposure

4000 mrem - 3160 mrem = 840 mR available

$(840 \text{ mrem}) / (80 \text{ mrem/hr}) = 10.5 \text{ hours}$

**Reference:** 1/2-ADM-1601, Radiation Protection Standards, Rev. 5

Job Performance Measure No.: 2002 NRC A3 RO

Examinee's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts: N/A

Time to Complete:

Question Documentation:

Question 1:

Response:

Question 2:

Response:

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

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

**CANDIDATE COPY****RO Admin A3****Question 1****NO Reference Allowed**

You and a co-worker are isolating a pump with a leaking seal in a high noise area in the plant. Ten minutes after arriving at the pump your alarming dosimeter (ARD) sounds a dose rate alarm. Your co-worker's ARD is not alarming.

Place the following actions in the correct order of performance in response to the ARD alarm.

- A. Note the indicated dose rate
- B. Notify Radiation Protection Technician
- C. Leave the work area
- D. Have your co-worker check their indicated dose rate

**CANDIDATE COPY****RO Admin A3****Question 2****NO Reference Allowed**

An evolution that is expected to take several hours must be performed in a Radiation Area. The individual who will perform the activity has a year to date exposure of 3160 mR (TEDE). The dose rate in the area where the emergency evolution will be performed is 80 mR/hr, and there is no airborne radioactivity present.

Determine the worker's **MAXIMUM** stay time while performing the activity to prevent exceeding any administrative dose guidelines.

Facility: **BVPS Unit 2** Task No.: N/A  
Task Title: Emergency Plan Administrative Questions JPM No.: 2002 NRC A4 RO  
K/A Reference: 2.4.29 (2.6)  
2.4.39 (3.3)

Examinee: \_\_\_\_\_ NRC Examiner: \_\_\_\_\_  
Facility Evaluator: N/A Date: \_\_\_\_\_  
Method of testing:  
Simulated Performance: \_\_\_\_\_ Actual Performance: \_\_\_\_\_  
Classroom X Simulator \_\_\_\_\_ 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: N/A  
Task Standard: Both questions answered correctly.  
Required Materials: None  
General References: EPP/I-4, Site Area Emergency, Rev. 17  
EPP/IP 5.1, Search And Rescue, Rev. 7  
Handouts: None  
Initiating Cue: N/A  
Time Critical Task: No  
Validation Time: N/A

**ANSWER KEY****RO Admin A4****Question 1**

List **FOUR** Emergency Response Facilities that are required to be activated upon declaration of a Site Area Emergency at BVPS.

**ANSWER:**

Operations Support Center (OSC)  
Technical Support Center (TSC)  
Emergency Operations Facility (EOF)  
Joint Public Information Center (JPIC)

**Reference:** EPP/I-4, Site Area Emergency, Rev. 17

**ANSWER KEY****RO Admin A4****Question 2**

An Alert level classification has been declared due to an in-plant fire. An individual has been determined to be missing following an evacuation of an affected area, as discovered during personnel accountability efforts. The individual is believed to be injured or trapped in an area away from the area of the fire.

Which activity takes precedence, fighting the fire or rescuing the trapped individual?

**ANSWER:**

Rescue of a victim shall take precedence over fire-fighting efforts.

**Reference:** EPP/IP 5.1, Search And Rescue, Rev. 7

Job Performance Measure No.: 2002 NRC A4 RO

Examinee's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts: N/A

Time to Complete:

Question Documentation:

Question 1:

Response:

Question 2:

Response:

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

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

**CANDIDATE COPY**

**RO Admin A4**

**Question 1**

**NO Reference Allowed**

List **FOUR** Emergency Response Facilities that are required to be activated upon declaration of a Site Area Emergency at BVPS.

**CANDIDATE COPY****RO Admin A3****Question 2****NO Reference Allowed**

An Alert level classification has been declared due to an in-plant fire. An individual has been determined to be missing following an evacuation of an affected area, as discovered during personnel accountability efforts. The individual is believed to be injured or trapped in an area away from the area of the fire.

Which activity takes precedence, fighting the fire or rescuing the trapped individual?

Facility: **BVPS Unit 2** Task No.:

Task Title: Review a QPTR Manual Calculation JPM No.: 2002 NRC A1a SRO

K/A Reference: 015000A1.04 (3.5/3.7)  
015000A4.02 (3.9/3.9)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: \_\_\_\_\_ Actual Performance:  X   
 Classroom  X  Simulator \_\_\_\_\_ 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 at 80% power.

- The plant computer is NOT available.
- All power range channels are operable.
- Normalization factors have been provided by Reactor Engineering.

Task Standard: QPTR calculation reviewed and determined NOT to meet 2OST-2.4A Acceptance Criteria.

Required Materials: Calculator

General References: 2OST-2.4A, Quadrant Power Tilt Ratio Manual Calculation, Rev. 4

Handouts: 2OST-2.4A, Rev. 4 (markup copy)

Initiating Cue: The Shift Manager directs you to review the QPTR calculation and report your results.

Time Critical Task: No

Validation Time: 10 minutes

(Denote Critical Steps with an asterisk)

	<b>CUE:</b> Provide Candidate with a completed copy of 2OST-2.4A and the QPTR Parameter Sheet.
<b>Performance Step: 1</b>	Reviews the excore detector normalization factors.
<b>Standard:</b>	No action required.
<b>Comment:</b>	
<b>Performance Step: 2</b>	Reviews upper and lower quadrant excore nuclear instrument detector outputs for each quadrant.
<b>Standard:</b>	Reviews values of detector current output for each quadrant on Data Sheet 1.
<b>Comment:</b>	
<b>Performance Step: 3</b>	Checks for correct value of current by multiplying each detector current reading by its normalization factor to obtain a corrected current.
<b>Standard:</b>	Determines corrected current values are SAT.
	<b>NOTE:</b> Candidate may complete the review by performing the calculations; however, this is not required for the JPM.
<b>Comment:</b>	

(Denote Critical Steps with an asterisk)

**Performance Step: 4**      Reviews average upper quadrant and average lower quadrant  
excore NI detector outputs.

**Standard:**                      Determines the average currents are SAT.

**NOTE: Candidate may complete the review by performing  
the calculations; however, this is not required for  
the JPM.**

**Comment:**

\* **Performance Step: 5**      Compares QPTR to Acceptance Criteria.

**Standard:**                      Determines that QPTR exceeds 1.02 on N43B (1.096).  
Identifies applicability of T.S. 4.2.4.a.

**Comment:**

**Terminating Cue:**              When the Candidate reports the results, the evaluation for this  
JPM is complete.

Job Performance Measure No.: 2002 NRC A1a SRO

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 Unit is in Mode 1 at 80% power.

- The plant computer is NOT available.
- All power range channels are operable.
- Normalization factors have been provided by Reactor Engineering.

**INITIATING CUE:**

The Shift Manager directs you to review the QPTR calculation and report your results.

Facility: **BVPS Unit 2** Task No.: 1300-002-03-023  
 Task Title: Review Operating Logs JPM No.: 2002 NRC A1b SRO  
 K/A Reference: 2.2.12 (3.0)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: \_\_\_\_\_ Actual Performance:  X   
 Classroom  X  Simulator \_\_\_\_\_ 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 100% power with all systems in their normal operating alignment.  
 The RO has just finished taking the 0000 to 0800 readings for the L5, Surveillance Verification Log.

Task Standard: Identifies out-of-specification reading and T.S. 3.5.1.a requirements.

Required Materials: None

General References: 2OM-54.3.L5, Surveillance Verification Log, Rev. 39

Handouts: 2OM-54.3.L5, Rev. 39 (markup copy)  
 T.S. 3.5.1

Initiating Cue: You are directed to perform a review of the L-5, Surveillance Verification Log and report your results.

Time Critical Task: No

Validation Time: 5 minutes

(Denote Critical Steps with an asterisk)

**Note: Provide Candidate with a copy of the completed L5 log. Do not provide T.S. reference at this time.**

- \* **Performance Step: 1**      Reviews L-5 log entries.  
**Standard:**                      Reviews log entries and determines that 2SIS-TK-21A level channels indicate greater than the 5% allowance.  
  
**Comment:**
- \* **Performance Step: 2**      Determines T.S. requirements.  
**Standard:**                      Refers to Technical Specification 3.5.1.a requirement to restore the accumulator to operable status within 1 hour.  
  
**CUE:**      **If requested, provide the Candidate with a copy of T.S. 3.5.1.**  
  
**Comment:**
- Terminating Cue:**              When the Candidate reports the results, the evaluation for this JPM is complete.

Job Performance Measure No.: 2002 NRC A1b SRO

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 at 100% power with all systems in their normal operating alignment.  
The RO has just finished taking the 0000 to 0800 readings for the L5, Surveillance Verification Log.

**INITIATING CUE:**

You are directed to perform a review of the L-5, Surveillance Verification Log and report your results.

Facility: **BVPS Unit 2** Task No.:

Task Title: Review AC Sources Alignment Verification JPM No.: 2002 NRC A2 SRO

K/A Reference: 2.2.12 (3.4)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

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

Classroom  X  Simulator \_\_\_\_\_ 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 100% power with all systems in their normal operating alignment.

- The 2-1 Emergency Diesel Generator was declared inoperable and removed from service 30 minutes ago.
- The PO has completed 2OST-36.7, Offsite to Onsite Power Distribution System Breaker Alignment Verification.
- The 2-2 Emergency Diesel Generator was tested satisfactorily per T.S. 4.8.1.1.2.a.5.

Task Standard: Identifies the error and determines T.S. action requirement.

Required Materials: None

General References: 2OST-36.7, Offsite To Onsite Power Distribution System Breaker Alignment Verification, Rev. 8  
T.S. 3.8.1.1

Handouts: 2OST-36.7, Rev. 8 (markup copy)  
T.S. 3.8.1.1

Initiating Cue: The Shift Manager directs you to review the completed 2OST-36.7 and report your results.

Time Critical Task: No

Validation Time: 10 minutes

(Denote Critical Steps with an asterisk)

- \* **Performance Step: 1**      Reviews Data Sheet 1.
- Standard:**                Reviews Data Sheet 1 and identifies that the neon light for ACB 342 is listed as OFF.
- Determines from Note 3 that the neon lamp is required for operability of the automatic bus transfer in Mode 1.

**CUE:**    **If the Candidate asks the status of the bulb, inform that a bulb check was SAT.**

**Comment:**

- NOTE:**    **Provide the Candidate a copy of the T.S. handout.**
- \* **Performance Step: 2**      Report results and T.S. action requirement.
- Standard:**                Informs Shift Manager that Acceptance Criteria is NOT met and that T.S. 3.8.1.1.c action statement requires restoring 1 of the inoperable sources to operable status within 12 hours.

**CUE:**    **If necessary, prompt the Candidate to determine the T.S. action statement requirement for an inoperable offsite circuit and diesel generator.**

**Comment:**

**Terminating Cue:**                When the Candidate reports the results, the evaluation for this JPM is complete.

Job Performance Measure No.: 2002 NRC A2 SRO

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 at 100% power with all systems in their normal operating alignment.

- The 2-1 Emergency Diesel Generator was declared inoperable and removed from service 30 minutes ago.
- The PO has completed 2OST-36.7, Offsite to Onsite Power Distribution System Breaker Alignment Verification.
- The 2-2 Emergency Diesel Generator was tested satisfactorily per T.S. 4.8.1.1.2.a.5.

**INITIATING CUE:**

The Shift Manager directs you to review the completed 2OST-36.7 and report your results.

Facility: **BVPS Unit 2** Task No.: 1350-006-03-023  
 Task Title: Approve Emergency Exposure JPM No.: 2002 NRC A3 SRO  
 K/A Reference: 2.3.4 (3.1)

Examinee: \_\_\_\_\_ NRC Examiner: \_\_\_\_\_  
 Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_  
Method of testing:  
 Simulated Performance: \_\_\_\_\_ Actual Performance:  X   
                                   Classroom  X  Simulator \_\_\_\_\_ 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 Site Area Emergency has been declared at Unit 2.
  - An individual is trapped and bleeding in a Locked High Radiation Area
  - An immediate response is necessary to save their life.
  - It has been clearly determined that actions establishing adequate or equivalent protection, with less dose are not readily available.
  - Bill Jones, a qualified radiation worker has volunteered to perform the rescue activity and has been briefed on risks of projected radiation exposure.
  - The individual has a year to date exposure of 880 mR (TEDE).
  - The area dose rate is 1,110 mR/hr and there is no airborne radioactivity present.
  - The rescue activity could take up to 4 hours.

Task Standard: Authorize the rescue activity in accordance with EPP/IP 5.3.  
 Required Materials: None  
 General References: EPP/IP 5.3 Emergency Exposure Criteria and Control, Rev. 8  
 Handouts: EPP/IP 5.3, Rev. 8  
 Initiating Cue: As the Emergency Director, you are to evaluate the listed conditions and determine if an emergency exposure can be authorized.  
 Time Critical Task: No  
 Validation Time: 5 minutes

(Denote Critical Steps with an asterisk)

- \* **Performance Step: 1** Per Attachment 1, determine the appropriate Emergency Exposure Authorization Limit.  
(Step E.1.1)  
**Standard:** Using Attachment 1, determines that an emergency exposure authorization is allowed based on:

<b>Block 1:</b> Declared Emergency Personnel are qualified No declared pregnant workers	<b>Site Area</b> <b>Yes</b> <b>Yes (Male)</b>
<b>Block 2:</b> Exposure necessary to (1) save human life	<b>Yes</b>
<b>Block 3:</b> Personnel are volunteers and have been briefed on risks of projected radiation exposure	<b>Yes</b>
<b>Block 4:</b> Sr. Vice President authorization for exposure > 75 rem	<b>No (4,440 mR)</b>
<b>Block 5:</b> Limit exposure to: 75 rem TEDE; 225 rem lens of eye; 750 rem organ CDE	<b>Yes</b>

**NOTE: If asked, inform the Candidate that the Emergency Exposure Authorization Form will not be filled out at this time.**

**Comment:**

**Terminating Cue:** When the Candidate reports their determination, the evaluation for this JPM is complete.

Job Performance Measure No.: 2002 NRC A3 SRO

Examinee's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts: N/A

Time to Complete:

Question Documentation:

Question:

Response:

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

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

**INITIAL CONDITIONS:**

- A Site Area Emergency has been declared at Unit 2.
- An individual is trapped and bleeding in a Locked High Radiation Area
- An immediate response is necessary to save their life.
- It has been clearly determined that actions establishing adequate or equivalent protection, with less dose are not readily available.
- Bill Jones, a qualified radiation worker has volunteered to perform the rescue activity and has been briefed on risks of projected radiation exposure.
- The individual has a year to date exposure of 880 mR (TEDE).
- The area dose rate is 1,110 mR/hr and there is no airborne radioactivity present.
- The rescue activity could take up to 4 hours.

**INITIATING CUE:**

As the Emergency Director, you are to evaluate the listed conditions and determine if an emergency exposure can be authorized.

Facility: **BVPS Unit 2** Task No.: 1350-004-03-023  
Task Title: Classify an EPP Event JPM No.: 2002 Audit A4 SRO  
K/A Reference: 2.4.41 (4.1) Scenario No. 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: The simulator scenario just completed.  
Task Standard: The proper EPP classification is made within 15 minutes.  
Required Materials: None  
General References: EPP/I-1B, Recognition and Classification of Emergency Conditions, Rev. 2  
Handouts: None  
Initiating Cue: Classify the events in the scenario just completed in accordance with EPP/I-1B, Recognition and Classification of Emergency Conditions.  
Time Critical Task: Yes  
Validation Time: 5 minutes

(Denote Critical Steps with an asterisk)

**Note: This JPM is designed to be administered after the Candidate has completed a simulator scenario. The Candidate should be directed to reference the EPP classification procedure located in the Simulator.**

- \* **Performance Step: 1**      Classify the event in accordance with the Emergency Plan.  
**Standard:**                      Properly classifies the event **within 15 minutes.**

**Scenario #1:** Site Area Emergency based on Tab 2.3, Failure of Rx Protection

**Scenario #2:** Alert based on Tab 1.2, RCS Barrier

**Scenario #3:** Alert based on Tab 2.3, Failure of Rx Protection, or Tab 3.1, Loss of Power

**NOTE:**      **A loss of both 4kV busses for greater than 15 minutes is classified as a Site Area Emergency per Tab 3.1.**

**Scenario #4:** Alert based on Tab 1.2, RCS Barrier

**Comment:**

**Terminating Cue:**                      When the Candidate has classified the event, the evaluation for this JPM is complete.

Job Performance Measure No.: 2002 NRC A4 SRO

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 simulator scenario just completed.

**INITIATING CUE:** Classify the events in the scenario just completed in accordance with EPP/I-1B, Recognition and Classification of Emergency Conditions.