

JOB PERFORMANCE MEASURE WORKSHEET

RO Administrative JPM #1
Section A.1

PERFORM A QPTR CALCULATION

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of Testing

Simulated Performance: _____

Actual Performance: _____

Classroom: _____

Simulator: _____

Plant: _____

K/A reference: 2.1.23 Ability to perform specific system and integrated plant procedures during all modes of plant operation.

JOB PERFORMANCE MEASURE WORKSHEET

VERIFICATION OF COMPLETION

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of attempts: _____

Time to complete: _____

Question documentation

Responses to questions

Result: SAT or UNSAT (circle one)

Examiner's signature and date: _____

JOB PERFORMANCE MEASURE WORKSHEET

1.0 Task Number and Description:

Position: RO

0150200501 Perform A Manual QPTR Calculation

2.0 Conditions:

- A. Plant is now at 100%.
- B. The main plant computer has been inoperable since yesterday
- C. The seven-day QPTR surveillance is scheduled to be done this shift.
- D. Incore/Excore calibration was performed yesterday.

3.0 Standards:

Perform the manual QPTR surveillance per RX1703, "QPTR Surveillance".
Final answers for QPTR should be within +/- 0.01 of the key. Deviations from this should be further examined.

4.0 Student Materials:

- Copy of the Tear-Off Sheet
- Calculator
- RX1703, QPTR Surveillance, Rev. 6, Chg.3.

5.0 Limitations on performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator.
Even if requested, no Peer Checks will be provided during the JPM.

6.0 References:

Procedures

- RX1703, "QPTR Surveillance"
- OS1000.05, "Power Increase"
- ON1251.01, "Loss Of Plant Computer"

Sys	KA	Description	Value RO/SRO
015	A1.04	Ability to monitor changes in QPTR.	3.5/3.7
015	K5.12	Knowledge of QPTR.	3.2/3.6
015	K5.16	Definition and calculation of QPTR.	2.9/3.4

JOB PERFORMANCE MEASURE WORKSHEET

7.0 Setting:

Classroom

- Give the student a copy of 100% power NI cabinet values.
- Examiner must prepare a completed RX1703A in advance. It shall reflect the JPM values for NI cabinet detector currents and the RE-17 100% power, 0% AFD values.
- Use values listed in RE-17 rev 01-08-15.

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

20 minutes

10.0 Initiating Cue:

Initial Conditions:

- Plant is now at 100% power.
- The main plant computer has been inoperable since yesterday.
- The QPTR surveillance is scheduled to be done this shift.
- Incore/Excore calibration was performed yesterday.

You are the Primary Operator. You are going to perform the QPTR surveillance.

US to Primary Operator, "**Primary Operator (or student's name), perform the QPTR Surveillance per RX1703. Discuss the results with me.**"

PERFORMANCE CHECKLIST

D=Discuss	ELEMENT/STEP	STANDARD	EVALUATION	INITIALS/DATE
P=Perform	*denotes a	*denotes critical	SAT UNSAT	
S=Simulate	critical step	standard		

1.	P	Start time: _____	Initiating cue read.	_____	_____
			• Obtains a copy of RX1703.	_____	_____

NOTE: After the correct procedure is located, give the student the copy from the JPM. When the correct form is referenced, give the student a blank form from the JPM.

CUE: If student asks: "The QPTR alarm surveillance has been entered and the RTS is being generated. Continue with the QPTR calculation."

CUE: If the student requests a Peer Check at any time during the JPM, respond: "No one is available to peer check your actions. Please continue with the task".

NOTE: Provide detector current data for upper & lower detectors.

2.	P	Refers to section 4.1, Surveillance With QPTR Alarm Inoperable:			
		a. RECORD the current output from the top (A) and bottom (B) detector of each channel on Form A, Quadrant Power Tilt Calculation Sheet.	a. Records detectors' output:		_____
			• N41 top detector	_____	_____
			• N42 top detector	_____	_____
			• N43 top detector	_____	_____
			• N44 top detector	_____	_____
			• N41 bottom detector	_____	_____
			• N42 bottom detector	_____	_____
			• N43 bottom detector	_____	_____
			• N44 bottom detector	_____	_____

PERFORMANCE CHECKLIST

D=Discuss	ELEMENT/STEP	STANDARD	EVALUATION	INITIALS/DATE
P=Perform	*denotes a	*denotes critical	SAT UNSAT	
S=Simulate	critical step	standard		

NOTE: Provide the student with a copy of RE-17 if asked.

3.	P	Using data from Technical Data Book Figure RE-17, RECORD the 100% power, 0% AFD detector current, for the top (A) and bottom (B) detector of each channel on Form A, Quadrant Power Tilt Calculation Sheet.	From TDB fig RE-17, Records 100% power, 0% AFD values: <ul style="list-style-type: none"> • 4 Top Detectors • 4 Bottom Detectors 	_____
4.	P	CALCULATE the normalized detector current by dividing each detector current by its 100% power, 0% AFD current. RECORD the results on Form A, Quadrant Power Tilt Calculation Sheet.	Calculates and records Normalized Detector Currents: <ul style="list-style-type: none"> • 4 Top Detectors • 4 Bottom Detectors 	_____
5.	P	CALCULATE the average normalized detector current for the top detectors and for the bottom detectors. RECORD the results on Form A, Quadrant Power Tilt Calculation Sheet.	Calculates and records average normalized detector currents: <ul style="list-style-type: none"> • Top • Bottom 	_____
6.	P	CALCULATE the Quadrant Power Tilt Ratio for each detector by dividing each normalized detector current by its associated average normalized detector current. COMPLETE Form A, Quadrant Power Tilt Calculation Sheet.	Calculates and records QPTR for each detector: <ul style="list-style-type: none"> • 4 Top • 4 Bottom 	_____

NOTE: If the student expresses a rounded off value, then that value shall be compared against the standard. The only value that is "critical" is the out of tolerance (asterisked) QPTR value.

CUE: If the student inquires about the RTS provide the following cue: "The RTS is being printed out, please circle the maximum power tilt ratio on your calculation sheet, and continue with the procedure".

PERFORMANCE CHECKLIST

D=Discuss
P=Perform
S=Simulate

ELEMENT/STEP
*denotes a
critical step

STANDARD
*denotes critical
standard

EVALUATION
SAT UNSAT

INITIALS/DATE

*7.	P	RECORD the maximum power tilt ratio on applicable RTS.	* Identifies (circles) the maximum power tilt ratio consistent with the answer key.	_____	_____
-----	---	--	---	-------	-------

CUE: If the student does not report TS compliance/non-compliance, provide the cue: **“Is QPTR within Tech. Spec. Limits?”**

*8.	P	If the Quadrant Power Tilt Ratio is determined to be greater than 1.02, immediately NOTIFY the SS/US.	* Determines and reports that QPTR is within TS limits.	_____	_____
-----	---	---	---	-------	-------

CUE: **“The JPM is complete.”**

9.	Stop time	Evaluator calculates the time to complete the task.	Start - Stop time is ≤ 20 minutes.	_____	_____
----	-----------	---	------------------------------------	-------	-------

Tear-Off Sheet for Applicant

Initial Conditions:

- Plant is now at 100% power.
- The main plant computer has been inoperable since yesterday.
- The QPTR surveillance is scheduled to be done this shift.
- Incore/Excore calibration was performed yesterday.

You are the Primary Operator. You are going to perform the QPTR surveillance.

US to Primary Operator, **“Primary Operator (or student's name), perform the QPTR Surveillance per RX1703. Discuss the results with me.”**

Channel & Location	Current (microAmps)
N41 TOP:	187
N41 BOTTOM:	198
N42 TOP:	183
N42 BOTTOM:	224
N43 TOP:	200
N43 BOTTOM:	222
N44 TOP:	195
N44 BOTTOM:	209

JOB PERFORMANCE MEASURE WORKSHEET

RO Administrative JPM #2
Section A.1

PERFORM A SHUTDOWN MARGIN CALCULATION

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of Testing

Simulated Performance: _____

Actual Performance: _____

Classroom: _____

Simulator: _____

Plant: _____

K/A reference: 2.1.25 Ability to obtain and interpret station reference materials such as graphs, monographs, and tables which contain performance data.

JOB PERFORMANCE MEASURE WORKSHEET

VERIFICATION OF COMPLETION

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of attempts: _____

Time to complete: _____

Question documentation

Responses to questions

Result: SAT or UNSAT (circle one)

Examiner's signature and date: _____

JOB PERFORMANCE MEASURE WORKSHEET

1.0 Task Number and Description:

Position: RO

0010100401 Perform Shutdown Margin Calculation

2.0 Conditions:

- The unit has just completed a natural circulation cooldown to 160F after a trip from full power that occurred 20 hours ago.

3.0 Standards:

- Calculate the boron concentration required to satisfy the SDM requirements for 160°F.
- Use RX1707, "Shutdown Margin Surveillance".

4.0 Student Materials:

- Copy of the Tear-Off Sheet
- Calculator
- RX1707, "Shutdown Margin Surveillance", Rev. 7, Chg.3.
- Primary Tech Data Book, (BOL) – Curves RE-02 (rev 01-09-11) & RE-18 (rev 01-09-01).

5.0 Limitations on performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator. Even if requested, no Peer Checks will be provided during the JPM.

6.0 References:

Procedures:

RX1707, Shutdown Margin Surveillance.

Technical Specifications:

3.1.1.1, SDM greater than 200°F.

Manuals:

Primary Technical Data Book.

JOB PERFORMANCE MEASURE WORKSHEET

Sys	KA	Description	Value RO/SRO
192002	K1.13	Calculate SDM using procedures and given plant parameters.	3.5/3.7

7.0 Setting:

Classroom. The Primary Technical Data Book containing COLR RE 21 Cycle 9 was used to generate the key and must be given to the applicants to complete this JPM.

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

20 minutes

10.0 Initiating Cue:

Initial conditions:

- The unit has just completed a natural circulation cooldown to 160F after a trip from full power that occurred 20 hours ago.

US to Primary Operator, "**Primary Operator (or student's name), determine the required boron concentration to satisfy SDM requirements for 160F, taking credit for xenon. Using RX1707, determine if SDM is satisfactory. The chemist will have the current RCS boron concentration shortly.**

11.0 Attachments

- RX1707, "Shutdown Margin Surveillance"
- Blank RX1707 Form A for applicant.
- Completed RX1707 Form A as answer key.
- Primary Technical Data Book (COLR RE 21 Cycle 9)

PERFORMANCE CHECKLIST

D=Discuss	ELEMENT/STEP	STANDARD	EVALUATION	INITIALS/DATE
P=Perform	*denotes a	*denotes critical	SAT UNSAT	
S=Simulate	critical step	standard		

P Start time: _____ Initiating cue read. _____

CUE: If the student requests a Peer Check at any time during the JPM, respond: **“No one is available to peer check your actions. Please continue with the task”.**

1.	P	For the RCS average temperature of 160F, OBTAIN the required shutdown boron concentration from Primary Technical Data Book Figure RE-2. RECORD this value (A) on Form A, Shutdown Margin Determination - MODEs 3, 4 and 5.	Determines required RE-2 concentration: <ul style="list-style-type: none"> • Refers to figure RE-2. • Records required boron concentration for existing RCS average temperature (RX1707A value A). (1135 ppm) 	_____
----	---	--	--	-------

CUE: When student asks about Xenon worth, provide the cue: **“Xenon worth is 3177 pcm.”**

*2.	P	To take credit for xenon, PERFORM the following: a. OBTAIN the xenon worth from the calculated point C0036 or from Reactor Engineering. RECORD this value (B) on Form A, Shutdown Margin Determination - MODEs 3, 4 and 5. b. OBTAIN differential boron worth (DBW) from TDB Figure RE-18. USE the value corresponding to the appropriate RCS temperature range. The value corresponding to RCS temperature below 530°F is the most conservative for this application and shall be used for RCS temperatures below 530°F. RECORD the value used (C) on Form A, Shutdown Margin Determination – Modes 3, 4, & 5. c. DETERMINE the Shutdown	Performs the following: a. Obtains and records xenon worth from RE or C0036. (3177 pcm) b. Obtains and records DBW from Figure RE-18. (14.063 pcm/ppm) *c. Calculates and records	_____
-----	---	--	--	-------

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP *denotes a critical step	STANDARD *denotes critical standard	EVALUATION SAT UNSAT	INITIALS/DATE
--------------------------------------	--	--	---------------------------------------	----------------------

Boron Concentration, including xenon, (D) by dividing the xenon worth (B) by the DBW (C). Subtract this value from the required Shutdown Boron Concentration (A). RECORD this value (D) on Form A, Shutdown Margin Determination - MODEs 3, 4 And 5, e.g., [D = A - (B/C)]. If the number is negative, RECORD a zero.	required shutdown boron concentration. (RX1707A value ± 20 ppm of key). (909 ppm)
---	---

CUE: When asked of current boron concentration: **“Chemistry reports that the RCS boron concentration is 980 ppm.”**

NOTE: SDM is adequate (existing boron concentration is greater than that required at 160F).

*3. P RECORD the Existing RCS Boron Concentration (E) on Form A, Shutdown Margin Determination - MODEs 3, 4 And 5. COMPARE it to the Required Boron Concentration:	a. If taking credit for xenon, COMPARE the Existing Boron Concentration (E) to the Shutdown Boron Concentration including xenon (D). NOTIFY the SS/US if the existing Boron Concentration is less than the required Boron Concentration.	Determines if current boron concentration is adequate as follows: <ul style="list-style-type: none"> • Records existing boron concentration. a. Performs the following: <ul style="list-style-type: none"> • Compares existing boron concentration to required boron concentration. * • Determines that existing boron concentration is adequate. 	_____ _____ _____
--	--	--	---------------------------------

CUE: **“The JPM is complete.”**

5. Stop time Evaluator calculates the time to complete the task.	Start - Stop time is ≤ 20 minutes.	_____
--	------------------------------------	-------

Tear-Off Sheet for Applicant

Initial conditions:

- The unit has just completed a natural circulation cooldown to 160F after a trip from full power that occurred 20 hours ago.

US to Primary Operator, "Primary Operator (or student's name), determine the required boron concentration to satisfy SDM requirements for 160F, taking credit for xenon. Using RX1707, determine if SDM is satisfactory. The chemist will have the current RCS boron concentration shortly.

RO/SRO KEY NRC EXAM

Form A: Shutdown Margin Determination MODEs 3, 4 And 5

TIME/DATE	RCS TAVG (°F)	(A) SHUTDOWN BORON (From RE-2) (PPM)	(B) XENON WORTH (C0036) (PCM)	(C) DIFFERENTIAL BORON WORTH (From RE-18) (PCM/PPM)	(D) SHUTDOWN BORON CONCENTRATION (XENON CREDIT) (A - (B/C)) (PPM)	(E) EXISTING RCS BORON (PPM)	RCS BORON GREATER THAN REQUIRED (YES/NO)	INITIALS
Date: 06/02-03/03	160°F	1135	3177	14.063	909	980	YES	Performed by:
Time :								Verified by:
Date: / /								Performed by:
Time :								Verified by:
Date: / /								Performed by:
Time :								Verified by:
Date: / /								Performed by:
Time :								Verified by:
Date: / /								Performed by:
Time :								Verified by:

US Review _____

JOB PERFORMANCE MEASURE WORKSHEET

RO Administrative JPM #3
Section A.2

CIRCULATING WATER LUBE WATER PUMP TAGOUT

Examinee: _____ NRC Examiner: _____

Facility Evaluator: _____ Date: _____

Method of Testing

Simulated Performance: _____ Actual Performance: _____

Classroom: _____ Simulator: _____ Plant: _____

K/A reference: 2.2.13 Knowledge of tagging and clearance procedures.

JOB PERFORMANCE MEASURE WORKSHEET

VERIFICATION OF COMPLETION

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of attempts: _____

Time to complete: _____

Question documentation

Responses to questions

Result: SAT or UNSAT (circle one)

Examiner's signature and date: _____

JOB PERFORMANCE MEASURE WORKSHEET

1.0 Task Number and Description:

Position: RO

Task Number: N/A

2.0 Conditions:

The applicant will receive a work package to tagout the CW Lube Water Pump 'B'. The applicant is expected to provide the component ID, component noun name, type of tag needed, and tagged position. The selection and sequence of the components must conform to MA 4.2, "Equipment Tagging and Isolation".

You will provide the applicant with the following references if asked: PID 1-CW-B20675, 1-NHY-301016 SHCY3a, and 1-NHY-301016 SHCY3b. MA 4.2 will NOT be available to the applicant.

3.0 Standards:

The applicant must provide the minimum isolation required by the answer key. More conservative configurations are acceptable as long as the tagout aligns the system in accordance with MA 4.2.

4.0 Student Materials:

- Copy of the Tear-Off Sheet.
- Work Package for Circ Water Lube Water pump 'B' with the tagout section incomplete. The SOMS cover sheet should also be removed to prevent giving away tagging strategies.
- PID 1-CW-B20675
- Schematic 1-NHY-301016 SHCY3a
- Schematic 1-NHY-301016 SHCY3b
- Blank Tag List sheet to record answers.

5.0 Limitations on performance:

None.

6.0 References:

MA 4.2, "Equipment Tagging and Isolation"

7.0 Setting:

Classroom/Simulator

JOB PERFORMANCE MEASURE WORKSHEET

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

20 minutes.

10.0 Initial Cue:

You are tasked with tagging out the Circulating Water Lube Water Pump 'B' for maintenance on a TRICO oiler.

This work package explains the details of the work to be performed.

You are to supply the following minimal information to the examiner on the answer sheet provided to you: the component ID, the component noun name, type of tag used (danger, caution, directional, etc.), and the tagged position of the component.

Inform the examiner when you are complete.

You may choose to explain your logic to the examiner while you are performing this JPM.

11.0 Attachments

- Tag List answer key.
- Work package.
- Blank Tag List sheet

Tear-Off Sheet for Applicant

You are tasked with tagging out the Circulating Water Lube Water Pump 'B' for maintenance on a TRICO oiler.

This work package explains the details of the work to be performed.

You are to supply the following minimal information to the examiner on the answer sheet provided to you: the component ID, the component noun name, type of tag used (danger, caution, directional, etc.), and the tagged position of the component.

Inform the examiner when you are complete.

You may choose to explain your logic to the examiner while you are performing this JPM.

ADMINISTRATIVE QUESTION WORKSHEET

RO Administrative Question
Section A.3.1

EMERGENCY DOSE LIMITS QUESTION

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of Testing

Simulated Performance: _____

Actual Performance: _____

Classroom: _____

Simulator: _____

Plant: _____

K/A reference: 2.3.4 Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized.

ADMINISTRATIVE QUESTION WORKSHEET

VERIFICATION OF COMPLETION

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of attempts: _____

Time to complete: _____

Question documentation

Responses to questions

Result: SAT or UNSAT (circle one)

Examiner's signature and date: _____

ADMINISTRATIVE QUESTION WORKSHEET

1.0 Task Number and Description:

Position: RO/SRO

Task Number: N/A

2.0 Conditions:

- The site has declared a Site Area Emergency due to a LOCA.
- You are directed to manipulate a valve in the RHR vault.

3.0 Standards:

The applicant must provide the correct answers in accordance with SSER 4.3, "Radiation Protection During Emergency Conditions"

4.0 Student Materials:

- Copy of the Tear-Off Sheet.
- SSER, "Emergency Response Manual"
- SSREP, "Seabrook Station Radiological Emergency Plan"
- SSRP, "Radiation Protection Manual"

5.0 Limitations on performance:

None.

6.0 References:

SSER 4.3, "Radiation Protection During Emergency Conditions"

7.0 Setting:

Classroom/Simulator

ADMINISTRATIVE QUESTION WORKSHEET

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

10 minutes.

10.0 Initial Cue:

This is an open reference question.

This is a three-part question.

Initial Conditions:

- The site has declared a Site Area Emergency due to a LOCA.
- You are directed to manipulate a valve in the RHR vault.

Part 1: What is your whole body dose limit for this activity?

Part 2: Given the current situation, under what circumstances can dose limits be raised above the non-emergency, federal annual limit and what are the limits?

Part 3: Whose permission is required to increase dose limits beyond the normal federal limits in an emergency?

Write your answers below and verbally explain to the examiner.

ADMINISTRATIVE QUESTION WORKSHEET

QUESTION:

This is a three-part question.

Initial Conditions:

- The site has declared a Site Area Emergency due to a LOCA.
- You are directed to manipulate a valve in the RHR vault.

Part 1: What is your whole body dose limit for this activity?

Part 2: Given the current situation, under what circumstances can dose limits be raised above the non-emergency, federal annual limit and what are the limits?

Part 3: Whose permission is required to increase dose limits beyond the normal federal limits in an emergency?

ANSWER:

Student may find answers in SSER Section 4.3, Figure 2.

Part 1: 5 rem.

Part 2: 10 rem to protect valuable equipment.
25 rem for lifesaving or protection of large populations.
>25 rem for lifesaving or protection of large populations (voluntary basis only)

Part 3: The Station Emergency Director or Short Term Emergency Director.

TEAR-OFF SHEET FOR APPLICANT

QUESTION:

This is an open reference question.

This is a three-part question.

Initial Conditions:

- The site has declared a Site Area Emergency due to a LOCA.
- You are directed to manipulate a valve in the RHR vault.

Part 1: What is your whole body dose limit for this activity?

Part 2: Given the current situation, under what circumstances can dose limits be raised above the non-emergency, federal annual limit and what are the limits?

Part 3: Whose permission is required to increase dose limits beyond the normal federal limits in an emergency?

Write you answers below and verbally explain to the examiner.

ADMINISTRATIVE QUESTION WORKSHEET

RO Administrative Question
Section A.3.2

REQUIREMENTS OF A LOCKED HIGH RADIATION AREA QUESTION

Examinee: _____ NRC Examiner: _____

Facility Evaluator: _____ Date: _____

Method of Testing

Simulated Performance: _____ Actual Performance: _____

Classroom: _____ Simulator: _____ Plant: _____

K/A reference: 2.3.1 Knowledge of 10CFR20 and related facility radiation control requirements.

ADMINISTRATIVE QUESTION WORKSHEET

VERIFICATION OF COMPLETION

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of attempts: _____

Time to complete: _____

Question documentation

Responses to questions

Result: SAT or UNSAT (circle one)

Examiner's signature and date: _____

ADMINISTRATIVE QUESTION WORKSHEET

1.0 Task Number and Description:

Position: RO/SRO

Task Number: N/A

2.0 Conditions:

No specific plant condition necessary.

3.0 Standards:

The applicant must provide the correct answers in accordance with Technical Specification 6.11.

4.0 Student Materials:

- Copy of the Tear-Off Sheet.
- Complete set of Technical Specifications
- SSRP

5.0 Limitations on performance:

None.

6.0 References:

Technical Specification 6.11

7.0 Setting:

Classroom/Simulator

ADMINISTRATIVE QUESTION WORKSHEET

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

10 minutes.

10.0 Initial Cue:

This is an open reference question.

While you are walking in the PAB, you pass the VCT room.

The following radiological controls are posted on, or in front of, the door leading into the room:

- Danger - High Radiation Area
- A radiological survey map with a gamma dose rate marked at 1300 mrem/hr @ 45cm. The high dose area is accessible to anyone in the room.
- There is a barricade in front of the door with a motion-actuated strobe.
- The door is unlocked but closed.
- There is no one in the VCT room.
- There is a sign on the door that reads "HP Work Area – Do Not Enter"

Are the controls and postings adequate for the radiological conditions inside this room?

ADMINISTRATIVE QUESTION WORKSHEET

QUESTION:

While you are walking in the PAB, you pass the VCT room.

The following radiological controls are posted on, or in front of, the door leading into the room:

- Danger - High Radiation Area
- A radiological survey map with a gamma dose rate marked at 1300 mrem/hr @ 45cm. The high dose area is accessible to anyone in the room.
- There is a barricade in front of the door with a motion-actuated strobe.
- The door is unlocked but closed.
- There is no one in the VCT room.
- There is a sign on the door that reads "HP Work Area – Do Not Enter"

Are the controls and postings adequate for the radiological conditions inside this room?

ANSWER:

No. This is a Technical Specification High Radiation Area. The door needs to be locked.

TEAR-OFF SHEET FOR APPLICANT

QUESTION:

This is an open reference question.

While you are walking in the PAB, you pass the VCT room.

The following radiological controls are posted on, or in front of, the door leading into the room:

- Danger - High Radiation Area
- A radiological survey map with a gamma dose rate marked at 1300 mrem/hr @ 45cm. The high dose area is accessible to anyone in the room.
- There is a barricade in front of the door with a motion-actuated strobe.
- The door is unlocked but closed.
- There is no one in the VCT room.
- There is a sign on the door that reads "HP Work Area – Do Not Enter"

Are the controls and postings adequate for the radiological conditions inside this room?

ADMINISTRATIVE QUESTION WORKSHEET

RO Administrative Question
Section A.4.1

OFF-WATCH E-PLAN REPORTING REQUIREMENTS

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of Testing

Simulated Performance: _____

Actual Performance: _____

Classroom: _____

Simulator: _____

Plant: _____

K/A reference: 2.4.39 Knowledge of the RO's responsibilities in emergency plan implementation.

ADMINISTRATIVE QUESTION WORKSHEET

VERIFICATION OF COMPLETION

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of attempts: _____

Time to complete: _____

Question documentation

Responses to questions

Result: SAT or UNSAT (circle one)

Examiner's signature and date: _____

ADMINISTRATIVE QUESTION WORKSHEET

1.0 Task Number and Description:

Position: RO

Task Number: N/A

2.0 Conditions:

The applicant is in training on-site when the site declares an ALERT.

3.0 Standards:

The applicant must provide the correct response in accordance with the Radiological Emergency Plan (SSREP).

4.0 Student Materials:

None.

5.0 Limitations on performance:

None.

6.0 References:

SSREP, "Radiological Emergency Plan", appendix A, table 2

7.0 Setting:

Classroom/Simulator

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

10 minutes.

ADMINISTRATIVE QUESTION WORKSHEET

10.0 Initial Cue:

Initial Conditions:

- You are just about to attend training in the simulator as a licensed reactor operator.
- The site declares an ALERT in response to an event in the plant.

Where are you to report?

Explain the location of this area.

ADMINISTRATIVE QUESTION WORKSHEET

Question:

Initial Conditions:

- You are just about to attend training in the simulator as a licensed reactor operator.
- The site declares an ALERT in response to an event in the plant.

Where are you to report and what are your duties?

Explain the location.

Answer:

The SSREP directs control room operators to report to the Operational Support Center (OSC).

The OSC is near the normal RCA entry point by the HP office.

TEAR-OFF SHEET FOR APPLICANT

This is a closed reference question.

The question has two parts.

Initial Conditions:

- You are just about to attend training in the simulator as a licensed reactor operator.
- The site declares an ALERT in response to an event in the plant.

Where are you to report?

Explain the location of this area.

Write your answers below and verbally explain them to the examiner.

ADMINISTRATIVE QUESTION WORKSHEET

RO Administrative Question
Section A.4.2

ON-WATCH COMMUNICATIONS

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of Testing

Simulated Performance: _____

Actual Performance: _____

Classroom: _____

Simulator: _____

Plant: _____

K/A reference: 2.4.39 Knowledge of the RO's responsibilities in emergency plan implementation.

ADMINISTRATIVE QUESTION WORKSHEET

VERIFICATION OF COMPLETION

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of attempts: _____

Time to complete: _____

Question documentation

Responses to questions

Result: SAT or UNSAT (circle one)

Examiner's signature and date: _____

ADMINISTRATIVE QUESTION WORKSHEET

1.0 Task Number and Description:

Position: RO

Task Number: N/A

2.0 Conditions:

- The applicant is the secondary control room operator (balance of plant operator).
- A SGTR is in progress.
- Main Steam Line Monitor is in high alarm.

3.0 Standards:

The applicant must provide the correct response in accordance with ER 1.1, "Classification of Emergencies"

4.0 Student materials

None.

5.0 Limitations on performance:

None.

6.0 References:

SSER, "Emergency Response Manual"

7.0 Setting:

Classroom/Simulator

ADMINISTRATIVE QUESTION WORKSHEET

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

10 minutes.

10.0 Initial Cue:

This is a closed-reference question.

This is a two-part question.

A STGR is in progress. The Main Steam Line Monitor for the ruptured steam generator is in high alarm. You are the Balance Of Plant operator.

- 1) Why is it important to notify the SM if the ruptured steam generator ASDV is lifting?
- 2) How will the SM use this information?

ADMINISTRATIVE QUESTION WORKSHEET

QUESTION:

A STGR is in progress. You are the Balance Of Plant operator.

- 1) Why is it important to notify the SM if the ruptured steam generator ASDV is lifting?
- 2) How will the SM use this information?

ANSWER:

- 1) This is a potential radiological release.
- 2) The SM is required to make a dose assessment using ODPS for E-Plan classification.

TEAR-OFF SHEET FOR APPLICANT

This is a closed-reference question.

This is a two-part question.

A STGR is in progress. You are the Balance Of Plant operator.

- 1) Why is it important to notify the SM if the ruptured steam generator ASDV is lifting?
- 2) How will the SM use this information?

JOB PERFORMANCE MEASURE WORKSHEET

SRO Administrative JPM #1
Section A.1

LOSS OF RHR COOLING TIME TO BOIL DETERMINATION

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of Testing

Simulated Performance: _____

Actual Performance: _____

Classroom: _____

Simulator: _____

Plant: _____

K/A reference: 2.1.25 Ability to obtain and interpret station reference materials such as graphs, monographs, and tables which contain performance data.

JOB PERFORMANCE MEASURE WORKSHEET

VERIFICATION OF COMPLETION

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of attempts: _____

Time to complete: _____

Question documentation

Responses to questions

Result: SAT or UNSAT (circle one)

Examiner's signature and date: _____

JOB PERFORMANCE MEASURE WORKSHEET

1.0 Task Number and Description:

Position: SRO

Evaluate Loss of cooling conditions and determine time to boiling.

2.0 Conditions:

- The plant is in mode 6.
- Reactor vessel is being drained to install nozzle dams.
- Reactor vessel level is at minus (-)38 inches.
- Both RHR pumps are lost and cannot be recovered.
- RCS temperature was 162F prior to the loss of both RHR pumps.
- The plant has been shutdown for 280 hours.

3.0 Standards:

Use the appropriate attachment of OS1213.02, "Loss of RHR While Operating at Reduced Inventory or Mid-Loop Conditions".

4.0 Student Materials:

When the applicant finds AOP OS1213.02, give the applicant a copy of OS1213.02 to mark-up.

5.0 Limitations on performance:

None.

6.0 References:

- OS1213.02, "Loss of RHR While Operating at Reduced Inventory or Mid-Loop Conditions".

7.0 Setting:

Simulator or classroom.

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

10 minutes

JOB PERFORMANCE MEASURE WORKSHEET

10.0 Initiating Cue:

Given the following conditions, determine the time until boiling in the RCS.

- The plant is in mode 6.
- Reactor vessel is being drained to install nozzle dams. The current level is at minus (-)38 inches.
- Both RHR pumps are lost and cannot be recovered.
- RCS temperature was 162F prior to the loss of both RHR pumps.
- The plant has been shutdown for 280 hours.

Write your answer below and verbally explain to the examiner.

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP *denotes a critical step	STANDARD *denotes critical standard	EVALUATION SAT UNSAT	INITIALS/DATE
--------------------------------------	---	---	----------------------------	---------------

- | | | | | |
|-----|---|--|--|--|
| 1. | P | Start time _____ | Initiating cue read. | |
| *2. | P | References Figure OS1213.02-5, "Time to Boiling vs Time After Shutdown for RCS Water Level at Reduced Inventory (below minus 36 inches)" | Locates and uses Figure OS1213.02-5. | |
| *3. | P | Determines time to boiling. | Determines time to boiling to be approximately 13 +1/-2 minutes. | |

CUE: When applicant gives examiner answer, inform applicant **"The JPM is complete"**.

Tear-Off Sheet for Applicant

Given the following conditions, determine the time until boiling in the RCS.

- The plant is in mode 6.
- Reactor vessel is being drained to install nozzle dams. The current level is at minus (-)38 inches.
- Both RHR pumps are lost and cannot be recovered.
- RCS temperature was 162F prior to the loss of both RHR pumps.
- The plant has been shutdown for 280 hours.

Write your answer below and verbally explain to the examiner.

JOB PERFORMANCE MEASURE WORKSHEET

SRO Administrative JPM #2
Section A.1

REVIEW A SHUTDOWN MARGIN CALCULATION

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of Testing

Simulated Performance: _____

Actual Performance: _____

Classroom: _____

Simulator: _____

Plant: _____

K/A reference: 2.1.25 Ability to obtain and interpret station reference materials such as graphs, monographs, and tables which contain performance data.

JOB PERFORMANCE MEASURE WORKSHEET

VERIFICATION OF COMPLETION

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of attempts: _____

Time to complete: _____

Question documentation

Responses to questions

Result: SAT or UNSAT (circle one)

Examiner's signature and date: _____

JOB PERFORMANCE MEASURE WORKSHEET

1.0 Task Number and Description:

Position: SRO

0010100401 Perform Shutdown Margin Calculation

2.0 Conditions:

- The unit has just completed a natural circulation cooldown to 160F after a reactor trip that occurred 20 hours ago.
- The reactor operator has just given the US a shutdown margin calculation to review.

3.0 Standards:

- Review a completed SDM calculation for 160°F.
- Determine that the shutdown boron concentration needed (column D of Form A) is incorrect.
- Use RX1707, "Shutdown Margin Surveillance".

4.0 Student Materials:

- Copy of the Tear-Off Sheet
- Calculator
- RX1707, Shutdown Margin Surveillance, Rev. 7, Chg.3.
- Primary Tech Data Book, (BOL) – Curves RE-02 (rev 01-09-11) & RE-18 (rev 01-09-01).
- Completed copy of RX1707 Form A with error.

5.0 Limitations on performance:

Simulate/Perform all steps. Verbalize all actions to the evaluator. Even if requested, no Peer Checks will be provided during the JPM.

6.0 References:

Procedures:

RX1707, Shutdown Margin Surveillance.

Manuals:

Primary Technical Data Book.

JOB PERFORMANCE MEASURE WORKSHEET

Sys	KA	Description	Value RO/SRO
192002	K1.13	Calculate SDM using procedures and given plant parameters.	3.5/3.7

7.0 Setting:

Classroom. The Primary Technical Data Book containing COLR RE 21 Cycle 9 was used to generate the key and must be given to the applicants to complete this JPM.

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

20 minutes

10.0 Initiating Cue:

Initial conditions:

- The unit has just completed a natural circulation cooldown to 160F after a reactor trip that occurred 20 hours ago.

You had ordered the primary operator to perform a SDM calculation for 160F with Xenon included. The operator has finished the task and has handed you Form A for review.

Your task is to perform a supervisory review of the shutdown margin determination to determine if it is satisfactory.

11.0 Attachments

- RX1707, "Shutdown Margin Surveillance"
- Completed RX1707 Form A, with error, for applicant.
- Completed RX1707 Form A as answer key.
- Primary Technical Data Book (COLR RE 21 Cycle 9)

PERFORMANCE CHECKLIST

D=Discuss	ELEMENT/STEP	STANDARD	EVALUATION	INITIALS/DATE
P=Perform	*denotes a	*denotes critical		
S=Simulate	critical step	standard	SAT UNSAT	

P Start time: _____ Initiating cue read. _____

CUE: If the applicant requests a Peer Check at any time during the JPM, respond: **"No one is available to peer check your actions. Please continue with the task"**.

1.	P	For the RCS average temperature of 160F, OBTAIN the required shutdown boron concentration from Primary Technical Data Book Figure RE-2. RECORD this value (A) on Form A, Shutdown Margin Determination - MODEs 3, 4 and 5.	Determines required RE-2 concentration: <ul style="list-style-type: none"> • Refers to figure RE-2. • Verifies required boron concentration for RCS average temperature of 160F (RX1707A value A). (1135 ppm) 	_____
----	---	--	--	-------

CUE: If the applicant asks what current Xenon is, respond: **"Xenon is worth 3177 ppm"**

2.	P	To take credit for xenon, PERFORM the following: a. OBTAIN the xenon worth from the calculated point C0036 or from Reactor Engineering. RECORD this value (B) on Form A, Shutdown Margin Determination - MODEs 3, 4 and 5. b. OBTAIN differential boron worth (DBW) from TDB Figure RE-18. USE the value corresponding to the appropriate RCS temperature range. The value corresponding to RCS temperature below 530°F is the most conservative for this application and shall be used for RCS temperatures below 530°F. RECORD the value used (C) on Form A, Shutdown Margin Determination - Modes 3, 4, & 5. c. DETERMINE the Shutdown	Performs the following: a. Verifies Xenon is included in the calculation and is recorded in column B. (3177 pcm) b. Verifies DBW from Figure RE-18. (14.063 pcm/ppm) *c. Calculates required	_____
----	---	--	---	-------

PERFORMANCE CHECKLIST

D=Discuss P=Perform S=Simulate	ELEMENT/STEP *denotes a critical step	STANDARD *denotes critical standard	EVALUATION SAT UNSAT	INITIALS/DATE
--------------------------------------	--	--	-----------------------------------	----------------------

Boron Concentration, including xenon, (D) by dividing the xenon worth (B) by the DBW (C). Subtract this value from the required Shutdown Boron Concentration (A). RECORD this value (D) on Form A, Shutdown Margin Determination - MODEs 3, 4 And 5, e.g., [D = A - (B/C)]. If the number is negative, RECORD a zero.

shutdown boron concentration. (RX1707A value ± 20 ppm of key). (909 ppm; applicant's copy says 1037ppm due to xenon being entered into the calculation as 1377 vice 3177)

CUE: When asked of current boron concentration: **"Chemistry reports that the RCS boron concentration is 980 ppm."**

NOTE: SDM is adequate (existing boron concentration is greater than that required at 160F).

*3.	P	RECORD the Existing RCS Boron Concentration (E) on Form A, Shutdown Margin Determination - MODEs 3, 4 And 5. COMPARE it to the Required Boron Concentration: a. If taking credit for xenon, COMPARE the Existing Boron Concentration (E) to the Shutdown Boron Concentration including xenon (D). NOTIFY the SS/US if the existing Boron Concentration is less than the required Boron Concentration.	Determines current boron concentration is adequate as follows: <ul style="list-style-type: none"> • Observes existing boron concentration. _____ a. Performs the following: <ul style="list-style-type: none"> • Compares existing boron concentration to required boron concentration. _____ * • Determines that existing boron concentration is adequate. _____ 	_____ _____ _____
-----	---	--	---	-------------------------

NOTE: the applicant should note an error in the calculation of required shutdown boron concentration. It is not critical that they identify that xenon is incorrect, but they must realize the existing RCS boron concentration is adequate vice inadequate.

CUE: "The JPM is complete."

5.	Stop time USNRC Initial Licensing Examination Seabrook Station June 2003 RO Section A.1 JPM #2	Start - Stop time is ≤ 20	_____
----	--	---------------------------	-------

PERFORMANCE CHECKLIST

D=Discuss
P=Perform
S=Simulate

ELEMENT/STEP
*denotes a
critical step

STANDARD
*denotes critical
standard

EVALUATION INITIALS/DATE
SAT UNSAT

minutes.

Evaluator calculates the time to
complete the task.

Tear-Off Sheet for Applicant

Initial conditions:

- The unit has just completed a natural circulation cooldown to 160F after a reactor trip that occurred 20 hours ago.

You had ordered the primary operator to perform a SDM calculation for 160F, with Xenon included, in accordance with RX1707. The operator has finished the task and has handed you RX1707 Form A for review.

Your task is to perform a supervisory review of the shutdown margin determination to determine if it is satisfactory.

Verbally explain your determination to the examiner.

SRO EXAM – APPLICANT HANDOUT

Form A: Shutdown Margin Determination MODEs 3, 4 And 5

TIME/DATE	RCS TAVG (°F)	(A) SHUTDOWN BORON (From RE-2) (PPM)	(B) XENON WORTH (C0036) (PCM)	(C) DIFFERENTIAL BORON WORTH (From RE-18) (PCM/PPM)	(D) SHUTDOWN BORON CONCENTRATION (XENON CREDIT) (A - (B/C)) (PPM)	(E) EXISTING RCS BORON (PPM)	RCS BORON GREATER THAN REQUIRED (YES/NO)	INITIALS
Date: 06/02-03/03	160°F	1135	3177	14.063	1037	980	NO	Performed by:
Time :								Verified by:
Date: / /								Performed by:
Time :								Verified by:
Date: / /								Performed by:
Time :								Verified by:
Date: / /								Performed by:
Time :								Verified by:
Date: / /								Performed by:
Time :								Verified by:
Date: / /								Performed by:
Time :								Verified by:

US Review _____

RO/SRO KEY NRC EXAM

Form A: Shutdown Margin Determination MODEs 3, 4 And 5

TIME/DATE	RCS TAVG (°F)	(A) SHUTDOWN BORON (From RE-2) (PPM)	(B) XENON WORTH (C0036) (PCM)	(C) DIFFERENTIAL BORON WORTH (From RE-18) (PCM/PPM)	(D) SHUTDOWN BORON CONCENTRATION (XENON CREDIT) (A - (B/C)) (PPM)	(E) EXISTING RCS BORON (PPM)	RCS BORON GREATER THAN REQUIRED (YES/NO)	INITIALS
Date: 06/02-03/03	160°F	1135	3177	14.063	909	980	YES	Performed by:
Time :								Verified by:
Date: / /								Performed by:
Time :								Verified by:
Date: / /								Performed by:
Time :								Verified by:
Date: / /								Performed by:
Time :								Verified by:
Date: / /								Performed by:
Time :								Verified by:
Date: / /								Performed by:
Time :								Verified by:

US Review _____

JOB PERFORMANCE MEASURE WORKSHEET

**SRO Administrative JPM #3
Section A.2**

REVIEW OF CIRCULATING WATER LUBE WATER PUMP TAGOUT

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of Testing

Simulated Performance: _____

Actual Performance: _____

Classroom: _____

Simulator: _____

Plant: _____

K/A reference: 2.2.13 Knowledge of tagging and clearance procedures.

JOB PERFORMANCE MEASURE WORKSHEET

VERIFICATION OF COMPLETION

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of attempts: _____

Time to complete: _____

Question documentation

Responses to questions

Result: SAT or UNSAT (circle one)

Examiner's signature and date: _____

JOB PERFORMANCE MEASURE WORKSHEET

1.0 Task Number and Description:

Position: SRO

Task Number: N/A

2.0 Conditions:

The applicant will receive a work package with a tagout for administrative review. The tagout isolates Circulating Water Lube Water Pump 'B' mechanically and electrically. The danger tag for the breaker switch is sequenced after the breaker. The pump suction valve is tagged before the discharge valve in the tagout.

You will provide the applicant with the following references if asked: PID 1-CW-B20675, 1-NHY-301016 SHCY3a and 1-NHY-301016 SHCY3b. MA 4.2 will NOT be available to the applicant.

3.0 Standards:

The applicant must identify that the breaker switch should be danger tagged prior to the breaker itself. The applicant should determine that the pump's discharge valve should be shut and tagged before the suction valve. The applicant must not sign the tagout as being satisfactory.

4.0 Student Materials:

- Copy of the Tear-Off Sheet.
- Work Package for Circ Water Lube Water pump 'B', including Tag List with errors.
- PIDs and Electrical schematics.

5.0 Limitations on performance:

None.

6.0 References:

MA 4.2, "Equipment Tagging and Isolation"

7.0 Setting:

Classroom/Simulator

8.0 Safety Considerations:

None

JOB PERFORMANCE MEASURE WORKSHEET

9.0 Approximate Completion Time:

15 minutes.

10.0 Initial Cue:

You are to review the tagout in this work package for technical adequacy.

Inform the examiner of the results of your review.

For example, if the tagout is satisfactory, state: "I have reviewed the tagout and it is satisfactory. I would sign it as satisfactory". Conversely, if you find problems with the tagout, state: "I would not sign this as satisfactory because _____".

Ask the examiner for any references you may need.

11.0 Attachments

- Work package including tag list with errors.
- PID 1-CW-B20675.
- Schematics 1-NHY-301016 SHCY3a and 1-NHY-301016 SHCY3b.

Tear-Off Sheet for Applicant

You are to review the tagout in this work package for technical adequacy.

MA 4.2 is not available for use.

Inform the examiner of the results of your review. For example, if the tagout is satisfactory, state: "I have reviewed the tagout and it is satisfactory. I would sign it as satisfactory". Conversely, if you find problems with the tagout, state: "I would not sign this as satisfactory because _____".

**DO NOT USE FOR TAG
PLACEMENT OR REMOVAL**

Tag ID	Noun Name	Location	Tag Serial	Tag Type	Place. Config	Place. Seq.	Reset Config.	Rest. Seq.	Notes
1-CW-P-136-B-BKR	CW LUBE WATER PUMP B BREAKER AT MCC-273 <CY3>	Not Required	0	Danger	Locked Open	1 (2)	Not Required	Not Required	Not Required
1-CW-P-136-B-CS	CW LUBE PUMP B CONTROL SWITCH AT MCB-FF	Not Required	0	Danger	Off	2 (1)	Not Required	Not Required	Not Required
1-CW-V-88-B	CW-P-136B SUCTION ISOLATION	Not Required	0	Danger	Locked Closed	3 (4)	Not Required	Not Required	Not Required
1-CW-V-104-B	CW-P-136B DISCHARGE ISOLATION	Not Required	0	Danger	Locked Closed	4 (3)	Not Required	Not Required	Not Required

Two Errors present. Control switch should be tagged before breaker then the discharge valve should be tagged before the suction valve. Bold numbers in the 'Place Sequence' denote required order of placement.

JOB PERFORMANCE MEASURE WORKSHEET

SRO Administrative JPM #4
Section A.3

CONTAMINATED INJURED MAN PROCEDURE

Examinee: _____ NRC Examiner: _____

Facility Evaluator: _____ Date: _____

Method of Testing

Simulated Performance: _____ Actual Performance: _____

Classroom: _____ Simulator: _____ Plant: _____

K/A reference: 2.3.4 Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized.

JOB PERFORMANCE MEASURE WORKSHEET

VERIFICATION OF COMPLETION

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of attempts: _____

Time to complete: _____

Question documentation

Responses to questions

Result: SAT or UNSAT (circle one)

Examiner's signature and date: _____

JOB PERFORMANCE MEASURE WORKSHEET

1.0 Task Number and Description:

Position: SRO

Task Number: N/A

Applicant must respond to a contaminated, injured worker in accordance with ODI.32. The applicant is required to execute a medical emergency data sheet up to and including step 7.

2.0 Conditions:

- The plant is in mode 6. You are the US.
- A resin sluice was in progress for the letdown ion exchangers.
- During the sluice, water backed up to the funnel quickly, which startled the vendor at the funnel.
- The vendor slipped and hit his head on the ground and is bleeding from a 6" cut on his head.
- The resin/water mixture spilled over the funnel and spilled about 2 gallons on and around the vendor.
- HP technicians report the man, John Doe, is highly contaminated and likely overexposed.
- A spill has been called away and HP technicians are at the scene.
- The spill has been isolated.
- The injured man is unconscious and breathing heavy.

3.0 Standards:

The applicant must provide the correct response in accordance with ODI.32, "Medical Emergency Response"

4.0 Student Materials:

- Copy of the Tear-Off Sheet.
- After applicant identifies to proper procedure to use, give them a copy of ODI.32.

5.0 Limitations on performance:

None.

6.0 References:

- ODI.32, "Medical Emergency Response"

JOB PERFORMANCE MEASURE WORKSHEET

7.0 Setting:

Classroom/Simulator

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

15 minutes.

10.0 Initial Cue:

This is an open reference question.

Initial Conditions:

- The plant is in mode 6. You are the US.
- A resin sluice was in progress for the letdown ion exchangers.
- During the sluice, water backed up to the funnel quickly, which startled the vendor at the funnel.
- The vendor slipped and hit his head on the ground and is bleeding from a 6" cut on his head.
- The resin/water mixture spilled over the funnel and spilled about 2 gallons on and around the vendor.
- HP technicians report the man, John Doe, is highly contaminated and likely overexposed.
- A spill has been called away and HP technicians are at the scene.
- The spill has been isolated.
- The injured man is unconscious and breathing heavy.

What is the required medical response to this situation?

PERFORMANCE CHECKLIST

D=Discuss	ELEMENT/STEP	STANDARD	EVALUATION	INITIALS/DATE
P=Perform	*denotes a	*denotes critical	SAT UNSAT	
S=Simulate	critical step	standard		

P	Start time: _____	Initiating cue read.		_____
---	-------------------	----------------------	--	-------

CUE: When the applicant locates the master copy of ODI.32, hand them ODI.32.

*1	P	Locate ODI.32	* Applicant locates ODI.32. Examiner provides a copy for mark-up.	
----	---	---------------	---	--

*2.	S	Notify Station EMTs, and activate the 911 pager for site EMTs to respond.	Simulates notifying the EMTs and activating the 911 pager for site EMTs to respond (uses direct dial pushbutton on US desk or uses 62-911).	_____
-----	---	---	---	-------

*3.	P	Initiate medical emergency data sheet.		
-----	---	--	--	--

a.	P	Completes data in section 1	* Completes section 1 Fills in date, time, caller's name, phone ext, and injured personnel's name. -conscious: no -breathing: yes -type of injury: head injury/bleeding -location: PAB -hazards: contaminated	_____
----	---	-----------------------------	---	-------

b.	S	Makes/verifies notifications in section 2 and records time.	Explains process of notifications in section 2 and records time.	_____
----	---	---	--	-------

CUE: Examiner to applicant, "The site ambulance is available."

c.	S	Page site EMTs or call site ambulance cell phone.	* Simulates contacting site ambulance.	
----	---	---	--	--

d.	S	Notify Security to which ambulance is responding.	Simulates contacting security to tell them the	
----	---	---	--	--

PERFORMANCE CHECKLIST

D=Discuss	ELEMENT/STEP	STANDARD	EVALUATION	INITIALS/DATE
P=Perform	*denotes a	*denotes critical		
S=Simulate	critical step	standard	SAT UNSAT	

site ambulance is responding (any site phone).

CUE: Examiner to applicant, "From the EMTs at the scene: ALS is not necessary"

e.	S	Send a vendor supervisor to the medical facility receiving the injured.	Simulates contacting John Doe's supervisor and sending him to the medical facility.
----	---	---	---

CUE: Examiner to applicant: "Exeter hospital is available."

f.	S	If overexposed, initiate a 1 hour report and see figure 6.2 *	Simulates initiating a 1-hour report.
			Figure 6.2 decision tree results: CONTACT MEDICAL TREATMENT PROVIDER (FIG 6.3) AND INDICATE PATIENT IS OVEREXPOSED, CONTAMINATED AND INJURED.
			Simulates calling Exeter Hospital(direct dial pushbutton on US desk phone).

CUE: "The JPM is complete."

4.	Stop time	Start - Stop time is ≤ 20 minutes.	_____
	Evaluator calculates the time to complete the task.		

TEAR-OFF SHEET FOR APPLICANT

This is an open reference question.

Initial Conditions:

- The plant is in mode 6. You are the US.
- A resin sluice was in progress for the letdown ion exchangers.
- During the sluice, water backed up to the funnel quickly, which startled the vendor employee at the funnel.
- The vendor employee slipped and hit his head on the ground and is bleeding from a 6" cut on his head.
- The resin/water mixture spilled over the funnel and spilled about 2 gallons on and around the vendor.
- A spill has been called away and HP technicians are at the scene.
- The spill has been isolated.
- HP technicians report the man, John Doe, is highly contaminated and likely overexposed
- The injured man is unconscious and breathing heavy.

What is the required medical response to this situation?

JOB PERFORMANCE MEASURE WORKSHEET

**SRO Administrative JPM #5
Section A.4**

**GENERAL EMERGENCY CLASSIFICATION, PAR DETERMINATION, AND
NOTIFICATIONS**

Examinee: _____

NRC Examiner: _____

Facility Evaluator: _____

Date: _____

Method of Testing

Simulated Performance: _____

Actual Performance: _____

Classroom: _____

Simulator: _____

Plant: _____

K/A reference: 2.4.38 Ability to take actions called for in the facility emergency plan, including (if required) supporting or acting as emergency coordinator.

JOB PERFORMANCE MEASURE WORKSHEET

VERIFICATION OF COMPLETION

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of attempts: _____

Time to complete: _____

Question documentation

Responses to questions

Result: SAT or UNSAT (circle one)

Examiner's signature and date: _____

JOB PERFORMANCE MEASURE WORKSHEET

1.0 Task Number and Description:

Task number is N/A.

Applicant makes an EAL determination (General Emergency), PAR, and makes required notifications.

2.0 Conditions:

The reactor tripped from 100%.

Safety Injection has automatically actuated due to a Large Break LOCA.

Plant conditions:

- RCS pressure is approx. 40 psig,
- Containment pressure is 26 psig and decreasing.
- RCS sub-cooling is 0°F.
- Pzr Level is zero.
- Containment Sump Level indicates 3 feet.
- Containment Post-LOCA monitor indicates 15 R/hr.
- No RDMS alarms present.
- Upper and lower wind direction indicates 210°.

The CSF status is as follows:

- Sub-criticality: Green
- Core Cooling: Yellow
- Heat Sink: Green
- Integrity: Red
- Containment: Orange
- Inventory: Yellow

'B' RHR Pump is tagged out for maintenance work, 'A' RHR Pump has tripped on over-current.

Crew has entered ECA-1.1 "Loss of Emergency Coolant Recirculation."

3.0 Standards:

The applicant correctly identifies the event as a General Emergency and makes the correct PAR and notifications as described below.

JOB PERFORMANCE MEASURE WORKSHEET

4.0 Student Materials:

- Copy of tear-off sheet.
- ER-1.1, Classification Of Emergencies, Rev. 34.
- ER-1.1A, Emergency Classification Flow Chart, Rev. 30.
- ER-1.2, Emergency Plan Activation, Rev. 42.

5.0 Limitations on performance:

Simulate all required communications.

6.0 References:

- ER-1.1, Classification of Emergencies.
- ER-1.2, Emergency Plan Activation.

Sys	KA	Description	Value RO/SRO
2.4	2.4.38	Ability to take actions called for in the facility E-Plan.	2.2/4.0

7.0 Setting:

Classroom setting.

8.0 Safety Considerations:

None

9.0 Approximate Completion Time:

20 minutes.

10.0 Initial Cue:

You are the Work Center Supervisor (WCS).

Plant conditions:

- The reactor tripped from 100%.
- Safety Injection has automatically actuated due to a Large Break LOCA.
- RCS pressure is approx. 40 psig,
- Containment pressure is 26 psig and decreasing.
- RCS sub-cooling is 0°F.
- PZR level is zero.
- Containment Sump Level indicates 3 feet.
- Containment Post-LOCA monitor indicates 15 R/hr.
- No RDMS alarms present.
- Upper and lower wind direction indicates 210°.

JOB PERFORMANCE MEASURE WORKSHEET

The CSF status is as follows:

- Sub-criticality: Green
 - Core Cooling: Yellow
 - Heat Sink: Green
 - Integrity: Red
 - Containment: Orange
 - Inventory: Yellow
-
- 'B' RHR Pump is tagged out for maintenance work, 'A' RHR Pump has tripped on over-current.
 - Crew has entered ECA-1.1 "Loss of Emergency Coolant Recirculation."

SM to WCS, "WCS (or applicant's name), evaluate present conditions and determine required emergency plan classification. Once condition is determined perform emergency plan activation and notification up to completion of state notification fact sheet."

Simulate the notifications to the examiner.

PERFORMANCE CHECKLIST

D=Discuss	ELEMENT/STEP	STANDARD	EVALUATION	INITIALS/DATE
P=Perform	*denotes a	*denotes critical	SAT UNSAT	
S=Simulate	critical step	standard		

1. P Start time: _____ Initiating cue read. _____

CUE: If the applicant requests a Peer Check at any time during the JPM, respond: **“No one is available to peer check your actions. Please continue with the task”.**

1. P Determine emergency action level. Implements ER-1.1 _____

a. P Applicant determines whether any CSF’s are challenged. None should be circled. _____

*b. P Applicant determines highest miscellaneous emergency conditions. Applicant should circle EAL 15f General Emergency. _____

c. P Applicant determines all applicable miscellaneous emergency conditions. Applicant should circle EAL 15d Site Area Emergency. _____

CUE: If applicant reports to SM results – direct applicant to perform emergency plan activation.

*2. P DETERMINE Schiller Station Activation: Applicant implements ER 1.2D General Emergency Checklist and uses flow chart: _____

CUE: HP has determined WRGM radiation levels are normal. No alarm condition exists.

- Is there a WRGM high alarm? _____
- Chooses “No” path _____

CUE: HP has determined Main Steamline radiation levels are normal. No alarm condition exists.

- Is there a main Steam line monitor high alarm with an open ASDV or SRV on the affected line? _____
- Chooses “No” path _____
- Select ER 1.2D step 3. _____
- * Determines Schiller Station not activated and goes to step 3. _____

CUE: When the student inquires about performing step 3 ‘Notify Station Personnel’ inform student to assume the announcement has been initiated at <present time> and to continue with step 3.f.

- f. Proceed to Step 6. _____
- f. Proceeds to Step 6. _____

PERFORMANCE CHECKLIST

D=Discuss	ELEMENT/STEP	STANDARD	EVALUATION	INITIALS/DATE
P=Perform	*denotes a	*denotes critical	SAT UNSAT	
S=Simulate	critical step	standard		

*5.	P	NOTIFY Guard Island Security	Notifies Guard Island:	_____
		a. Contact the Guard Island Supervisor at x4006.	*a. Contacts the Guard Island Supervisor.	_____

NOTE: An evaluator must be present to act as Guard Island Security.

b. Provide the following information:	b. Provides the following:	_____
• A General Emergency has been declared.	* • GE has been declared.	_____
• Time of declaration.	* • Time of Gaitronics announcement.	_____
• The emergency initiating condition designation.	* • 15F	_____
• Schiller Station is/is not being activated (as determined above)	* • Schiller Station not activated.	_____
• Direct implementation of procedure GN1332.00, Security Response to a Declared Radiological Emergency.	* • Directs GN1332.00 be implemented.	_____
c. Proceed to Step 7.	• Goes to Step 7.	

*6.	P	COMPLETE ER-2.0B, State Notification Fact Sheet.	Completes ER-2.0B:	_____
-----	---	--	--------------------	-------

a. Block 1 - Leave Blank	a. Block 1 - leaves blank.	_____
CUE: If asked, STED to WCS, "Time of declaration was <current time>	based on your announcement"	
b. Block 2 - Check General Emergency time declared.	*b. Block 2 - checks GE and enters time declared.	_____
c. Block 3 - Complete using the following information:	c. Block 3:	

PERFORMANCE CHECKLIST

D=Discuss	ELEMENT/STEP	STANDARD	EVALUATION	INITIALS/DATE
P=Perform	*denotes a	*denotes critical	SAT	UNSAT
S=Simulate	critical step	standard		

CUE: "No release is in progress from the plant vent. The lower wind direction is from 210°."

- | | |
|---|--|
| <ul style="list-style-type: none"> • If a release is in progress from the plant vent, enter the current upper wind direction. For other conditions, enter the current lower wind direction - FROM _____ degrees. | <ul style="list-style-type: none"> • Enters lower wind direction (210°) on ER-1.2D. _____ |
| <ul style="list-style-type: none"> • Identify the appropriate PAR GROUP A column based on the above wind direction to determine the towns to be evacuated and sheltered. | <ul style="list-style-type: none"> • Selects the column 168 - 281.4 _____ |
| <ul style="list-style-type: none"> • Check off the evacuated and sheltered towns on form ER-2.0B, Block 3. | <ul style="list-style-type: none"> * • Checks ERPA A Seabrook and Hampton Falls and ERPA D Hampton and North-Hampton EVACUATE. All other towns - SHELTER. _____ |
| <ul style="list-style-type: none"> • All NH and MA beaches should be checked off as evacuated and closed, respectively. | <ul style="list-style-type: none"> * • Checks EVACUATE NH Beaches and CLOSE MASS Beaches. _____ |
| <ul style="list-style-type: none"> d. Block 4 - Self-explanatory | <ul style="list-style-type: none"> d. Block 4 - checks the emergency "is continuing." _____ |

CUE: STED to WCS, "There has been no release."

- | | |
|---|---|
| <ul style="list-style-type: none"> e. Block 5 - Use guidance to determine if a release has occurred. | <ul style="list-style-type: none"> *e. Block 5 - checks a radiological release "has not occurred". _____ |
|---|---|

NOTE: When student presents form for authorization: Make no comments on the information recorded. Sign and fill in date and time. Return the signed form to the student.

PERFORMANCE CHECKLIST

D=Discuss	ELEMENT/STEP	STANDARD	EVALUATION	INITIALS/DATE
P=Perform	*denotes a	*denotes critical	SAT UNSAT	
S=Simulate	critical step	standard		

f. Block 6 – Self-explanatory

f. Block 6 - STED
authorizes by signing
and filling in date/time.

CUE: When the applicant gets to step 8, "Notify the States", stop them from navigating the procedure and ask them: "What agency notifications are required and what time limits are associated with them?"

*7	S	State Notification Requirements	The states of New Hampshire and Massachusetts must be notified within 15 minutes after declaring an emergency. Use form ER 1.2E.
----	---	---------------------------------	--

*8	S	Federal Notification Requirements	The NRC must be notified within 1 hour. The headquarters operation officers is reached at 301-816-5100.
----	---	-----------------------------------	---

CUE: "The JPM is complete."

9.	Stop time	Start - Stop time is ≤ 20 minutes.	_____
	Evaluator calculates the time to complete the task.		

TEAR-OFF SHEET FOR APPLICANT

You are the Work Center Supervisor (WCS).

Plant conditions:

- The reactor tripped from 100%.
- Safety Injection has automatically actuated due to a Large Break LOCA.
- RCS pressure is approx. 40 psig,
- Containment pressure is 26 psig and decreasing.
- RCS sub-cooling is 0°F.
- PZR level is zero.
- Containment Sump Level indicates 3 feet.
- Containment Post-LOCA monitor indicates 15 R/hr.
- No RDMS alarms present.
- Upper and lower wind direction indicates 210°.
- 'B' RHR Pump is tagged out for maintenance work; 'A' RHR Pump has tripped on over-current.
- Crew has entered ECA-1.1 "Loss of Emergency Coolant Recirculation."

The CSF status is as follows:

- Sub-criticality: Green
- Core Cooling: Yellow
- Heat Sink: Green
- Integrity: Red
- Containment: Orange
- Inventory: Yellow

SM to WCS, "WCS (or applicant's name), evaluate present conditions and determine required emergency plan classification. Once condition is determined perform emergency plan activation and notification up to completion of state notification fact sheet."

Simulate the notifications to the examiner.