FACILITY NAME: McGuire Nulear Plant

Section 6

REPORT NUMBER: 05000369/370/2009-301

DRAFT ADMINISTRATIVE JPMS

CONTENTS:

☑ **Draft ADMIN JPMs**

Location of Electronic Files:

Submitted By: _____ Verified By Mark J. Riches

JPM A1a RO

Facility:	McGuire	Task No.:	217MFW002
Task Title:	Determine Boric Acid Addition to FWST	JPM No.:	2009 Admin - JPM A1a RO
K/A Reference:	GK/A 2.1.25 (3.9/4.2)		

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 was at 100% power when a leak developed on the FWST.
- FWST Level dropped to 440 inches before leak was isolated.
- Enclosure 4.4, "FWST Makeup Using the RHT," of OP/1/A/6200/014, "Refueling Water System" is in progress and completed through Step 3.9.
- LCO 3.5.4, Refueling Water Storage Tank (RWST), was entered 10 minutes ago.
- Chemistry has provided the following information:
  - BAT Boron Conc. = 7234 ppm
  - RHT Boron Conc.= 1076 ppm
  - FWST Make up Boron Concentration: Use COLR Minimum

Task Standard: The operator will calculate the amount of Boric Acid that must be added from the BAT to refill the FWST is 7,912 gallons ± 372 gallons.

Required Materials: Calculator
Reference Cart with all identified General References.

General References: OP/1/A/6200/014, Refueling Water System
McGuire Core Operating Limits Report (Cycle 20)
McGuire U-1 Data Book

OMP 8-2, Component Verification Techniques

Handouts: Enclosure 4.4 of OP/1/A/6200/014, Refueling Water System, marked up for place-keeping through Step 3.9 as follows:

- Initial Conditions 2.1 -2.3 are initialed.
- Procedure Step 3.1 – Box checked.
- Procedure Step 3.2 – Left blank (Conditional step).
- Procedure Step 3.3 – initialed, Person Notified: CHEMIST, date/time: present.
- Procedure Step 3.4 – NA, initialed.
- Procedure Step 3.5 – initialed.
- Procedure Step 3.6 – NA, initialed.
- Procedure Step 3.7 – NA, initialed.
- Procedure Step 3.8 – NA, initialed.
- Procedure Step 3.9 – initialed, Person Notified: R.P. TECH, date/time: present.

Initiating Cue: Determine the amount of Boric Acid needed to raise the FWST level to 480" using the RHT in accordance with Step 3.10 of Enclosure 4.4 of OP/1/A/6200/014, "Refueling Water System."

Time Critical Task: NO

Validation Time: 20 minutes

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM), and Handout Enclosure 4.4 marked up for place-keeping through Step 3.9.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*1	(Step 3.10) Determine the amount of Boric Acid needed to raise makeup water to the limits specified in the Core Operating Limits Report (COLR).	The operator locates the COLR on the Reference Cart. The operator refers to Section 2.13.1 on Page 26 of 32 and determines that the minimum boron concentration to be used in the calculation is 2675 ppm. The operator records **2675** ppm in the first line (Desired Boron Concentration of Addition from COLR) of the Doer Calculation in Step 3.10 of Enclosure 4.4.		
*2	(1st Bullet) Desired Boron Concentration of Addition from COLR + 25 ppmB margin = Desired Boron Concentration	The operator adds an additional 25 ppm and determines Desired Boron Concentration to be 2700 ppm. The operator records **2700** ppm in the 2nd line (Desired Boron Conc) of the Doer Calculation in Step 3.10 of Enclosure 4.4.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*3	(2nd Bullet) {(Desired Cb) - (RHT Cb)} (BAT Cb) - (RHT Cb) x {Desired Total Makeup Volume to FWST} = Desired BAT Volume	The operator identifies Desired Cb = **2700** from previous Step and records. The operator recognizes that RHT Cb = **1076** ppm and records (Initial Conditions). The operator recognizes that BAT Cb = **7234** ppm and records (Initial Conditions). The operator determines Desired Total Makeup Volume to FWST as follows: The operator locates the Unit 1 Data Book on the Reference Cart. The operator addresses Enclosure 4.3, Curve 7.7 – in Unit 1 Data Book. The operator determines from graph that total makeup volume is 30,000 by comparing 480" volume of 390,000 gallons to the 440" volume of 360,000 gallons. The operator records **30,000** gallons (± 1000 gallons). The operator calculates the Desired BAT Volume to be added to be **7,912** gallons ± **372** gallons.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
		The operator records **7,912** gallons ± **372** gallons as the Desired BAT Volume in the Doer Calculation.		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2009 Admin - JPM A1a RO

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

KEY:

Desired Boron Concentration from COLR + 25 ppmB = Desired Boron Concentration

2675 ppm (From COLR) + 25 ppmB = 2700 ppm

$$\frac{\{(\text{Desired Cb}) - (\text{RHT Cb})\}}{(\text{BAT Cb}) - (\text{RHT Cb})} \times \{\text{Desired Total Makeup Volume to FWST}\} = \text{Desired BAT Volume}$$

Given:

RHT Cb = 1076 ppm
BAT Cb = 7234 ppm

Desired Total Makeup Volume to FWST = Overflow volume – Present volume
(From Enclosure 4.3, Curve 7.7 of Unit 1 Core Data Book:)
390,000 gallons – 360,000 gallons (440") = 30,000 gallons
(Allow ± 1000 gallons)

So:

$$\frac{\{(\text{Desired Cb})-(\text{RHT Cb})\}}{(\text{BAT Cb})-(\text{RHT Cb})} \times \{\text{Desired Total Makeup Volume to FWST}\} = \text{Desired BAT Volume}$$

$$\frac{\{(2700)-(1076)\}}{(7234)-(1076)} \times \{30000\} = \text{Desired BAT Volume}$$

$$\frac{\{1624\}}{6158} \times \{30000\} = \text{Desired BAT Volume}$$

.26 x {30000} = Desired BAT Volume or 7,912 gallons ± 372 gallons

OR between 7,540 and 8,284 gallons

INITIAL CONDITIONS:

- The plant was at 100% power when a leak developed on the FWST.
- FWST Level dropped to 440 inches before leak was isolated.
- Enclosure 4.4, "FWST Makeup Using the RHT," of OP/1/A/6200/014, "Refueling Water System" is in progress and completed through Step 3.9.
- LCO 3.5.4, Refueling Water Storage Tank (RWST), was entered 10 minutes ago.
- Chemistry has provided the following information:
  - BAT Boron Conc. = 7234 ppm
  - RHT Boron Conc.= 1076 ppm
  - FWST Make up Boron Concentration: Use COLR Minimum

INITIATING CUE:

Determine the amount of Boric Acid needed to raise the FWST level to 480" using the RHT in accordance with Step 3.10 of Enclosure 4.4 of OP/1/A/6200/014, "Refueling Water System."

DRAFT

JPM A1b RO

Facility: McGuire

Task No.:

Task Title: Calculate QPTR

JPM No.: 2009 Admin - JPM A1b RO

K/A Reference: GK/A 2.1.7 (4.4)

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 Unit 1 OAC failed and is not operating.
- The vendor is being consulted concerning repairs.
- It is estimated it will take approximately 15 hours to complete repairs.
- The crew has implemented PT/1/A/4600/021A, Loss of Operator Aid Computer while in Mode 1 and completed through step 12.12.
- Unit 1 is at 100% power and all Power Range Instruments are OPERABLE.

Task Standard: The operator will calculate the QPTR (See Attached Key) and determine that the QPTR Technical Specification has been exceeded.

Required Materials: Calculator
McGuire Technical Specifications

General References: PT/1/A/4600/021A, Loss of Operator Aid Computer while in Mode 1
MNS Unit #1 Data Book – Table 2.2
McGuire Technical Specifications (LCO 3.2.4)

Handouts: PT/1/A/4600/021A Loss of Operator Aid Computer while in Mode 1, marked up through step 12.12.

Detector Currents (Page 9 of 10 of this JPM)
MNS Unit #1 Data Book – Table 2.2 (Cycle 20)

Initiating Cue:	The CRSRO has directed you to calculate QPTR in accordance with Step 12.13 of PT/1/A/4600/21A, Loss of Operator Aid Computer while in Mode 1.
Time Critical Task:	NO
Validation Time:	22 minutes

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM), the Detector Currents (2nd to last Page of this JPM), handout PT/1/A/4600/021A marked up through step 12.12, and MNS Unit 1 Data Book Table 2.2 (Cycle 20).

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
1	(Step 12.13) **IF** QPTR Alarm inoperable **AND** greater than 50% RTP, perform the following: (Step 12.13.1) **If** all Power Range (PR) channel inputs to QPTR operable, calculate QPTR on Enclosure13.5 (Calculation Sheet for Quadrant Power Tilt) Part A within 12 hours and every 12 hours thereafter until QPTR Alarm operable.	The operator determines from initial conditions QPTR Alarm is inoperable, Unit 1 is at 100% power and all PR channels are operable. Operator proceeds to Enclosure 13.5 (Calculation Sheet for Quadrant Power Tilt) Part A.		
2	(Enclosure 13.5 Part A) Complete the Form	The operator enters the current Date and Time at the top of the form.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*3	(Enclosure 13.5 Part A) Measured Current - From NI cabinet's current meter (located on respective PRB Drawers). Ensure Detector Milliamp Range Switches are in "0.5" position and read 0-500 microamp scale.	The operator records the correct amperage reading for each detector (From the Handout provided) in the **Measured Current** row for each of the eight (8) detectors as follows: PR-41A = **298** PR-41B = **305** PR-42A = **296** PR-42B = **312** PR-43A = **299** PR-43B = **315** PR-44A = **299** PR-44B = **308**		
*4	(Enclosure 13.5 Part A) Calibration Current - From most recent calibration data using "0" Incore Axial Offset Current in Data Book, Table 2.2 ("IT" for detector "A", "IB" for detector "B").	The operator locates OP/1/A/6100/022, Enclosure 4.3, Table 2.2, Excore Currents and Voltages Correlated to 100% Full Power at Various Axial Offsets. The operator records the correct amperage reading for each detector (Table 2.2) in the **Calibration Current** row for each of the eight (8) detectors as follows: PR-41A = **116.1** PR-41B = **127.7** PR-42A = **122.3** PR-42B = **130.7** PR-43A = **119.7** PR-43B = **134.7** PR-44A = **111.4** PR-44B = **128.4**		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*5	(Enclosure 13.5 Part A) Relative Flux (RF) – Divide line 1 by line 2 to calculate Relative Flux (RF) for each upper (A) and lower (B) detector.	The operator correctly calculates the average RF and records the in the **Relative Flux (RF)** row for each of the eight (8) detectors as follows: PR-41A = 298/116.1 = **2.57** PR-41B = 305/127.7 = **2.39** PR-42A = 296/122.3 = **2.42** PR-42B = 312/130.7 = **2.39** PR-43A = 299/119.7 = **2.50** PR-43B = 315/134.7 = **2.34** PR-44A = 299/111.4 = **2.68** PR-44B = 308/128.4 = **2.40**		
*6	(Enclosure 13.5 Part A) Quadrant Power Tilts: Calculate by dividing each upper relative flux by the average upper relative flux and dividing each lower relative flux by the average lower relative flux. Avg RF of A Detectors	The operator records the RF of each of the four (4) A detectors and calculates the Avg RF of A Detectors as follows: **(2.57+2.42+2.50+2.68)/4 = 2.54**		
*7	(Enclosure 13.5 Part A) Quadrant Power Tilts: Calculate by dividing each upper relative flux by the average upper relative flux and dividing each lower relative flux by the average lower relative flux. Avg RF of B Detectors	The operator records the RF of each of the four (4) B detectors and calculates the Avg RF of B Detectors as follows: **(2.39+2.39+2.34+2.40)/4 = 2.38**		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*8	(Enclosure 13.5 Part A) Quadrant Power Tilts: Calculate by dividing each upper relative flux by the average upper relative flux and dividing each lower relative flux by the average lower relative flux. PR-41A Tilt	The operator calculates the PR-41A Tilt as follows: **2.57/2.54 = 1.01** And records this value.		
*9	(Enclosure 13.5 Part A) Quadrant Power Tilts: Calculate by dividing each upper relative flux by the average upper relative flux and dividing each lower relative flux by the average lower relative flux. PR-41B Tilt	The operator calculates the PR-41B Tilt as follows: **2.39/2.38 = 1.00** And records this value.		
*10	(Enclosure 13.5 Part A) Quadrant Power Tilts: Calculate by dividing each upper relative flux by the average upper relative flux and dividing each lower relative flux by the average lower relative flux. PR-42A Tilt	The operator calculates the PR-42A Tilt as follows: **2.42/2.54 = 0.95** And records this value.		
*11	(Enclosure 13.5 Part A) Quadrant Power Tilts: Calculate by dividing each upper relative flux by the average upper relative flux and dividing each lower relative flux by the average lower relative flux. PR-42B Tilt	The operator calculates the PR-42B Tilt as follows: **2.39/2.38 = 1.00** And records this value.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*12	(Enclosure 13.5 Part A) Quadrant Power Tilts: Calculate by dividing each upper relative flux by the average upper relative flux and dividing each lower relative flux by the average lower relative flux. PR-43A Tilt	The operator calculates the PR-43A Tilt as follows: **2.50/2.54 = 0.98** And records this value.		
*13	(Enclosure 13.5 Part A) Quadrant Power Tilts: Calculate by dividing each upper relative flux by the average upper relative flux and dividing each lower relative flux by the average lower relative flux. PR-43B Tilt	The operator calculates the PR-43B Tilt as follows: **2.34/2.38 = 0.98** And records this value.		
*14	(Enclosure 13.5 Part A) Quadrant Power Tilts: Calculate by dividing each upper relative flux by the average upper relative flux and dividing each lower relative flux by the average lower relative flux. PR-44A Tilt	The operator calculates the PR-44A Tilt as follows: **2.68/2.54 = 1.06** And records this value.		
*15	(Enclosure 13.5 Part A) Quadrant Power Tilts: Calculate by dividing each upper relative flux by the average upper relative flux and dividing each lower relative flux by the average lower relative flux. PR-44B Tilt	The operator calculates the PR-44B Tilt as follows: **2.40/2.38 = 1.01** And records this value.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*16	(Technical Specification 3.2.4) The QPTR shall be ≤ 1.02.	The operator determines that a quadrant is >1.02 and • Refers to LCO 3.2.4 OR • Informs the CRSRO of the condition.		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2009 Admin - JPM A1b RO

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

KEY:

Part A Page 1 of 4

	PR-41		PR-42		PR-43		PR-44	
	A	B	A	B	A	B	A	B
Measured Current	298	305	296	312	299	315	299	308
Calibration Current	116.1	127.7	122.3	130.7	119.7	134.7	111.4	128.4
Relative Flux (RF)	2.57	2.39	2.42	2.39	2.50	2.34	2.68	2.40

Part A Page 2 of 4

Avg RF of A Detectors = 2.57 + 2.42 + 2.5 + 2.68 = 2.54

Avg RF of B Detectors = 2.39 + 2.39 + 2.34 + 2.40 = 2.38

PR-41A Tilt RFA = RF of PR-41A / 2.54 = 2.57 / 2.54 1.01

PR-41B Tilt RFB = RF of PR-41B / 2.38 = 2.39 / 2.38 1.00

PR-42A Tilt RFA = RF of PR-42A / 2.54 = 2.42 / 2.54 .95

PR-42B Tilt RFB = RF of PR-42B / 2.38 = 2.39 / 2.38 1.00

PR-43A Tilt RFA = RF of PR-43A / 2.54 = 2.50 / 2.54 .98

PR-43B Tilt RFB = RF of PR-43B / 2.38 = 2.34 / 2.38 .98

PR-44A Tilt RFA = RF of PR-44A / 2.54 = 2.68 / 2.54 1.06

PR-44B Tilt RFB = RF of PR-44B / 2.38 = 2.40 / 2.38 1.01

The following Detector Currents are observed on the NI cabinet current meters:

NI-41 detector:

A (left) 298

B (right) 305

NI-42 detector:

A (left) 296

B (right) 312

NI-43 detector:

A (left) 299

B (right) 315

NI-44 detector:

A (left) 299

B (right) 308

JPM CUE SHEET

INITIAL CONDITIONS:

- The Unit 1 OAC failed and is not operating.
- The vendor is being consulted concerning repairs.
- It is estimated it will take approximately 15 hours to complete repairs.
- The crew has implemented PT/1/A/4600/021A, Loss of Operator Aid Computer while in Mode 1 and completed through step 12.12.
- Unit 1 is at 100% power and all Power Range Instruments are OPERABLE.

INITIATING CUE:

The CRSRO has directed you to calculate QPTR in accordance with Step 12.13 of PT/1/A/4600/21A, Loss of Operator Aid Computer while in Mode 1.

DRAFT

JPM A2 RO

DRAFT

VERIFICATION OF COMPLETION

Facility:	McGuire	Task No.:	
Task Title:	Perform Daily Surveillance Items Checklist	JPM No.:	2009 Admin - JPM A2 RO
K/A Reference:	GK/A 2.2.44 (4.2/4.4)		

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:

- Unit 1 and Unit 2 are in Mode 1 at 100% power.
- It is 0200 and PT/1/A/4600/003B, "Daily Surveillance Items," is in progress.
- A check of the Unit 1 TSAIL Report revealed that there were no outstanding items that may impact the performance of the Daily Surveillance Items Checklist.
- Another operator is performing Enclosure 13.2, NAC-UMS Cask Monitoring.

Task Standard: The operator will complete Enclosure 13.1, Daily Surveillance Items Checklist identifying four items on the Checklist that do not meet the identified acceptance criteria, and one item that requires CRSRO notification.

Required Materials: Footstool to view indicators on MCB vertical sections.

General References: PT/1/A/4600/003B, Daily Surveillance Items
Unit 1 Core Data Book
McGuire Core Operating Limits Report (Cycle 20)
McGuire Unit 1 and Unit 2 Technical Specifications

Handouts: PT/1/A/4600/003B, Enclosure 13.1, Daily Surveillance Items partially completed with entries for items NOT simulated:

- Wind Speed Monitor (Lower)
- Wind Speed Monitor (Upper)
- Wind Direction Monitor (Lower)
- Wind Direction Monitor (Upper)
- Air Temperature Delta T
- Loose Parts Detection System

Place initials in routine daily surveillance Block, record "1" in Mode of Operation Block, and record present date. Place a check mark in the 1am – 7am block for Time performed.

PT/1/A/4600/003B, Daily Surveillance Items, with Step 12.1 marked off for place-keeping.

Initiating Cue: The CRSRO has directed you to continue with and complete Enclosure 13.1, Daily Surveillance Items Checklist in accordance with PT/1/A/4600/003B.

Time Critical Task: NO

Validation Time: 25 minutes

SIMULATOR OPERATIONAL GUIDELINES

1. Reset to IC-39.
2. Adjust N43 detector current so that detector is > Heat Balance by 2.45%.
3. Insert IND-NV043 (1NVP5763) = 53 (VCT Level off by 7%).
4. Insert IND-FW001 (1FWP5030) = 98 (FWST Temperature to 98°F).
5. Insert MALF-EMF233 = SLO; Turn off 1EMF-33.
6. ANN-RAD1-F05 = OFF; Cabinet 1-2 Trouble Annunciator OFF
7. Freeze the Simulator

OR

1. Reset to IC-97 (December 2008)
2. Go to Run.
3. Check to see that EMF-33 operate light is dark, or NOT LIT.

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM) and Handout PT/1/A/4600/003B (Body of Procedure) with Step 12.1 marked off for place-keeping and Enc 13.1, Daily Surveillance Items Checklist marked up for items NOT simulated.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
1	(Section 6) Review Limits and Precautions.	The operator reviews Limits and Precautions.		
2	(Step 12.2) Complete Enclosure 13.1 (Daily Surveillance Items Checklist)	The operator recognizes that the checklist is already in progress and continues. **Cue:** **IF operator attempts to inform the CRSRO of a discovered Discrepancy prior to completion provide the following:** **CRSRO acknowledges report and will evaluate Tech Specs.**		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*3	(Step 12.3) Check each applicable surveillance item in Enclosure 13.1 (Daily Surveillance Items Checklist) meets its Acceptance Criteria.	The operator places their initials in all Surveillance Items that are observed to meet their Acceptance Criteria. The operator recognizes that N43 (M1P1468) is NOT within 2% of the Heat Balance Calculation **(Does NOT initial step (1st block Page 1 of 8)).** The operator recognizes that 1NVP5760 and 1NVP5763 are NOT within 5% of each other **(Does NOT initial step (last block Page 1 of 8)).** The operator recognizes that the FWST Solution Temperature has met its Acceptance Criteria, however, is above the threshold that requires FWST Cooling to commence. **The operator initials the Surveillance Item, but informs the CRSRO of the need to begin FWST cooling**). The operator recognizes that the 1EMF-33 Operate light is NOT lit **(Does NOT initial step (3rd block from the bottom of Page 2 of 8)).**		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
		CUE: **If the operator indicates that RP should be notified to perform a Source Check, provide the following:** **RP is notified.**		
		The operator recognizes that N43 (Drawer) is NOT within 2% of the Heat Balance Calculation **(Does NOT initial step (3rd block from the bottom of Page 3 of 8)).**		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2009 Admin - JPM A2 RO

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

JPM CUE SHEET

INITIAL CONDITIONS:

- Unit 1 and Unit 2 are in Mode 1 at 100% power.
- It is 0200 and PT/1/A/4600/003B, "Daily Surveillance Items," is in progress.
- A check of the Unit 1 TSAIL Report revealed that there were no outstanding items that may impact the performance of the Daily Surveillance Items Checklist.
- Another operator is performing Enclosure 13.2, NAC-UMS Cask Monitoring.

INITIATING CUE:

- The CRSRO has directed you to continue with and complete Enclosure 13.1, Daily Surveillance Items Checklist in accordance with PT/1/A/4600/003B.

DRAFT

JPM A4 RO

DRAFT

Facility: McGuire

Task No.:

Task Title: Conduct a Site Assembly

JPM No.: 2009 Admin - JPM A4 RO

K/A Reference: GK/A 2.4.39 (3.9/3.8)

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:

- Unit 1 was at 100% power when it experienced a loss of electrical power.
- An E-Plan "ALERT" classification has been declared.
- While performing RP/0/A/5700/002, Alert, the OSM determines a "Site Assembly" is required.
- The TSC has not been activated.

Task Standard: The operator will be expected to complete a Site Assembly in accordance with Enclosure 4.3, OSM Actions for Site Assembly, of RP/0/A/5700/011, "Conducting a Site Assembly, Site Evacuation or Containment Evacuation," including informing the Security Department that a Site Assembly is being performed, determining whether the Card Reader System is functioning properly, turning the Outside Page Speakers on and off, operating the Site Assembly alarm, make announcements pertinent to a Site Assembly, and directing the Security Department to ensure that the Site Assembly is thorough.

Required Materials: None

General References: RP/0/A/5700/011, Conducting A Site Assembly, Site Evacuation or Containment Evacuation

RP/0/A/5700/002, Alert

Handouts:	Enclosure 4.3 of RP/0/A/5700/011, Conducting A Site Assembly, Site Evacuation or Containment Evacuation.
Initiating Cue:	The OSM designates you to conduct a Site Assembly in accordance with Step 1 of Enclosure 4.3, OSM Actions for Site Assembly, of RP/0/A/5700/011, Conducting a Site Assembly, Site Evacuation or Containment Evacuation.
Time Critical Task:	NO
Validation Time:	16 minutes

SIMULATOR OPERATIONAL GUIDELINES

1. Reset to IC-9, 10^{-8} amps.
2. MALF-EP001, Station Blackout.
3. MALF-DG004A, Overspeed of 1A D/G.
4. Silence Main Control Board Alarms.

OR

1. Reset to IC-115.
2. Place the Simulator in Run.

NOTE: The Simulator Instructor should silence MCB Alarms during the performance of the JPM.

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM), and Handout Enclosure 4.3 of RP/0/A/5700/011.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
1	(Notes prior to Step 1) All personnel inside the protected area are to be accounted for within thirty (30) minutes of the initiation of Site Assembly and continuously thereafter until released or until instructed to relocate or evacuate. All personnel outside the protected area and within the owner controlled area should report to their site assembly point and their supervision/designee within thirty (30) minutes of the initiation of Site Assembly and continuously thereafter until released or until instructed to relocate or evacuate.	The operator reads the Notes and proceeds to Step 1.		
*2	(Steps 1/1.1) IF a Site Assembly is required and the TSC is not activated, the Operations Shift Manager or designee shall perform the following: Contact Security at extension 2688 or 4900 to inform them that a Site Assembly is being initiated.	Using any convenient phone, the operator dials 2688 or 4900. **Cue: (Simulator Inst)** **Respond as "Security" and acknowledge.** The operator informs the Security personnel that a Site Assembly is being initiated.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
3	(Note prior to Step 1.2) In the event of a card reader failure, Division/Group Managers are responsible for accounting for all personnel under their supervision and calling in a report to Security approximately 20 minutes after initiation of a site assembly. Actions to be taken in this case are specified in steps 1.7 and 1.8.	The operator reads the Note and proceeds to Step 1.2.		
*4	(Step 1.2) Confirm that Security has activated the plant-wide emergency accountability system (card reader system) and that the system is functioning.	Using any convenient phone, the operator dials 2688 or 4900. **Cue: (Simulator Inst)** **Respond as "Security."** The operator asks if the card reader system is functioning. **Cue: (Simulator Inst)** **The card reader system is functioning.**		
*5	(Step 1.3) Turn on the outside page speakers.	The operator places the outside page speakers control switch to ON.		
*6	(Step 1.4) Sound a 10-second blast of the Site Assembly alarm.	The operator places the control switch for the Site Assembly alarm to ALARM for ten seconds, and then places the control switch back to OFF.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*7	(Step 1.5) Record the site assembly alarm time.	The operator records the current time in the block provided on Enclosure 4.3, page 1 of 4.		
*8	(Step 1.6) Record the time of the Site Assembly alarm from the previous step at the appropriate space in step 1.7 or step 1.8 to be announced to the site.	The operator records the time recorded in Step 1.5 in the block provided in Step 1.7 on Enclosure 4.3, page 2 of 4.		
9	(Notes prior to Step 1.7) Any plant phone in the Control Room horse shoe or extension 4021 (Support Assistant Desk) is programmed to access 710, site all call. If specific plant conditions prohibit access to any assembly points, include in the emergency or drill message for personnel to avoid the area and assemble at an alternate assembly point. If the alternate OSC in the Admin Building room TR-155 has been, or will be activated, persons that assemble in TR-155 should be directed to assemble at another location in the Admin Building, such as the bullpen area in Safety Assurance.	The operator reads the Notes and proceeds to Step 1.7.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*10	(Step 1.7) For an actual emergency: dial 710, pause, dial 80, and following the beep, announce: "This is a Site Assembly. This is a Site Assembly. (Give brief description/reason for the assembly instructions). All personnel are to report immediately to their assembly points. For persons inside the protected area, if you do not know the location of your assembly point, either report to the Canteen Office Warehouse, or report to the site assembly point in the Admin Building. For persons outside the protected area and in the owner controlled area, if you do not know the location of your assembly point, report to the auditorium in building 7422, McGuire Office Complex (MCC), or the lobby of building 7403, Technical Training Center (TTC). All personnel are to remain at their site assembly point until further instructions are given. Assembly start time is _____." In the event of a card reader failure, announce: "The card reader system is not functioning. Division/Group Managers are responsible for accounting for all personnel under their supervision and calling in a report to Security at extension 2688 or 4900 at approximately 20 minutes after assembly start time."	Using any convenient phone, The operator dials 710, pauses, dials 80. **Note: (Examiner)** **The Simulator phone system will NOT recognize the dialing.** **Cue:** **After the operator picks up the phone, ask the operator to state the dialing instructions.** **WHEN the operator identifies "710-pause-80" state that these numbers have been dialed and that a BEEP is heard.** Following the beep, the operator makes the scripted announcement identifying the correct Start Time. The operator does NOT make the announcement regarding the card reader failure.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
11	(Step 1.8) For a Drill.....	The operator recognizes that this is NOT a drill, and proceeds to Step 1.9.		
*12	(Step 1.9) For an actual emergency: repeat steps 1.4 and 1.7 in full one time.	The operator places the control switch for the Site Assembly alarm to ALARM for ten seconds, and then places the control switch back to OFF. Using any convenient phone, The operator dials 710, pauses, dials 80, and following the beep, begins to make the stated announcement. **Cue: (Examiner)** **The Announcement has been made.**		
13	(Step 1.10) For a Drill.....	The operator recognizes that this is NOT a drill, and proceeds to Step 1.11.		
*14	(Step 1.11) Contact Security and request that security perform a sweep of the discharge canal, the nature trail, and the beach to evacuate visitors from the owner controlled area.	Using any convenient phone, the operator dials 2688 or 4900. **Cue: (Simulator Inst)** **Respond as "Security," and acknowledge request.** The operator requests that Security personnel perform a sweep of the discharge canal, the nature trail, and the beach to evacuate visitors from the owner controlled area.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
15	(Step 1.12) For an Actual Emergency: continue to repeat steps 1.4 and 1.7 at 10-minute intervals until notification that the Site Assembly has been completed.	The operator notes that the next announcement must be made in 10 minutes.		
16	(Step 1.13) For a Drill.....	The operator recognizes that this is NOT a drill, and proceeds to Step 1.14. **Cue: (Examiner)** **Security calls and indicates that all personnel are accounted for.**		
*17	(Step 1.14) Turn off the outside page speakers following completion of site assembly.	The operator places the outside page speakers control switch to OFF.		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2009 Admin - JPM A4 RO

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

JPM CUE SHEET

INITIAL CONDITIONS:

- Unit 1 was at 100% power when it experienced a loss of electrical power.
- An E-Plan "ALERT" classification has been declared.
- While performing RP/0/A/5700/002, Alert, the OSM determines a "Site Assembly" is required.
- The TSC has not been activated.

INITIATING CUE:

The OSM designates you to conduct a Site Assembly in accordance with Step 1 of Enclosure 4.3, OSM Actions for Site Assembly, of RP/0/A/5700/011, Conducting a Site Assembly, Site Evacuation or Containment Evacuation.

DRAFT

JPM A1a SRO

DRAFT

Facility:	McGuire	Task No.:	217MFW002
Task Title:	Determine Boric Acid Addition to FWST	JPM No.:	2009 Admin - JPM A1a SRO
K/A Reference:	GK/A 2.1.25 (3.9/4.2)		

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 was at 100% power when a leak developed on the FWST.
- FWST Level dropped to 440 inches before leak was isolated.
- Enclosure 4.4, "FWST Makeup Using the RHT," of OP/1/A/6200/014, "Refueling Water System" is in progress and completed through Step 3.9.
- LCO 3.5.4, Refueling Water Storage Tank (RWST), was entered 10 minutes ago.
- Chemistry has provided the following information:
  - BAT Boron Conc. = 7234 ppm
  - RHT Boron Conc.= 1076 ppm
  - FWST Make up Boron Concentration: Use COLR Minimum
- The BOP has just completed the Doer Calculation of Step 3.10 of Enclosure 4.4, "FWST Makeup Using the RHT," and has asked you to perform a Separate Verification on the calculation.

Task Standard: The operator will calculate the amount of Boric Acid that must be added from the BAT to refill the FWST is 7,912 gallons ± 372 gallons, determine that the RO made two errors in the original calculation, and identify that Technical Specification ACTION C is now applicable.

Required Materials: Calculator

Reference Cart with all identified General References.

General References: OP/1/A/6200/014, Refueling Water System

McGuire Core Operating Limits Report (Cycle 20)

McGuire U-1 Data Book

McGuire Technical Specifications

McGuire Selected Licensee Commitment Manual

OMP 8-2, Component Verification Techniques

Handouts: Enclosure 4.4 of OP/1/A/6200/014, Refueling Water System, marked up for place-keeping and the Doer Calculation of Step 3.10 as follows:

- Initial Conditions 2.1 -2.3 are initialed.
- Procedure Step 3.1 – Box checked.
- Procedure Step 3.2 – Left blank (Conditional step).
- Procedure Step 3.3 – initialed, Person Notified: CHEMIST, date/time: present.
- Procedure Step 3.4 – NA, initialed.
- Procedure Step 3.5 – initialed.
- Procedure Step 3.6 – NA, initialed.
- Procedure Step 3.7 – NA, initialed.
- Procedure Step 3.8 – NA, initialed.
- Procedure Step 3.9 – initialed, Person Notified: R.P. TECH, date/time: present.
- Procedure Step 3.10 – initialed.
- Doer Calculation:

(2875 ppmB + 25 ppmB = 2900 ppmB

$$\{ \frac{(2900\ ppmB) - (1076\ ppmB)}{(7234\ ppmB) - (1076\ ppmB)} \} \{15{,}000\} = 4443\ gal$$

Initiating Cue:	Perform the Separate Verification of the calculation in Step 3.10 of Enclosure 4.4 to confirm the amount of Boric Acid that must be added from the Boric Acid Tank (BAT), in order to raise the FWST Level to 480" using the RHT. **AFTER** the calculations have been completed and verified in the FWST make up procedure, an **80 gpm** Makeup is started to the FWST, and continues for **1 hour.** At the end of this 1 hour period: What is the status of compliance with LCO 3.5.4? FWST Temperature = 85 Deg FWST [B] = 2775 ppm
Time Critical Task:	NO
Validation Time:	20 minutes

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM), and Handout Enclosure 4.4 marked up for place-keeping through Step 3.10.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*1	(Step 3.10) Determine the amount of Boric Acid needed to raise makeup water to the limits specified in the Core Operating Limits Report (COLR).	The operator locates the COLR on the Reference Cart. The operator refers to Section 2.13.1 on Page 26 of 32 and determines that the minimum boron concentration to be used in the calculation is 2675 ppm, and **NOT 2875 ppm used by RO (1st Error) .** The operator records **2675** ppm in the first line (Desired Boron Concentration of Addition from COLR) of the SV calculation in Step 3.10 of Enclosure 4.4.		
*2	(1st Bullet) Desired Boron Concentration of Addition from COLR + 25 ppmB margin = Desired Boron Concentration	The operator adds an additional 25 ppm and determines Desired Boron Concentration to be 2700 ppm. The operator records **2700** ppm in the 2nd line (Desired Boron Conc) of the SV calculation in Step 3.10 of Enclosure 4.4.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*3	(2nd Bullet) {(Desired Cb) - (RHT Cb)} (BAT Cb) - (RHT Cb) x {Desired Total Makeup Volume to FWST} = Desired BAT Volume	The operator identifies Desired Cb = **2700** from previous Step and records. The operator recognizes that RHT Cb = **1076** ppm and records Initial Conditions). The operator recognizes that BAT Cb = **7234** ppm and records (Initial Conditions). The operator determines Desired Total Makeup Volume to FWST as follows: The operator locates the Unit 1 Data Book on the Reference Cart. The operator addresses Enclosure 4.3, Curve 7.7 – in Unit 1 Data Book. The operator determines from graph that total makeup volume is 30,000 by comparing 480" volume of 390,000 gallons to the 440" volume of 360,000 gallons; and **NOT 15,000 gallons used by the RO (2nd Error).** The operator records **30,000** gallons (± 1000 gallons). The operator calculates the Desired BAT Volume to be added to be **7,912** gallons ± **372** gallons.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*4	(Technical Specification LCO 3.5.4) The RWST shall be OPERABLE.	The operator observes TS LCO 3.5.4 and determines that ACTION B was entered at the start of the JPM action was necessary within 1 hour to restore volume. The operator determines that the FWST Volume TS Limit is 372,100 gallons. The operator determines that that 12,100 gallons (± 1000 gallons) must be added to the FWST to comply with this ACTION Statement, and that in one hour 4800 gallons will be added. The operator identifies that ACTION C is now applicable.		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2009 Admin - JPM A1a SRO

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

KEY:

Desired Boron Concentration from COLR + 25 ppmB = Desired Boron Concentration

2675 ppm (From COLR) + 25 ppmB = 2700 ppm

$$\frac{\{(\text{Desired Cb}) - (\text{RHT Cb})\}}{(\text{BAT Cb}) - (\text{RHT Cb})} \times \{\text{Desired Total Makeup Volume to FWST}\} = \text{Desired BAT Volume}$$

Given:

RHT Cb = 1076 ppm
BAT Cb = 7234 ppm

Desired Total Makeup Volume to FWST = Overflow volume – Present volume
(From Enclosure 4.3, Curve 7.7 of Unit 1 Core Data Book:)
390,000 gallons – 360,000 gallons (440") = 30,000 gallons
(Allow ± 1000 gallons)

So:

$$\frac{\{(\text{Desired Cb})-(\text{RHT Cb})\}}{(\text{BAT Cb})-(\text{RHT Cb})} \times \{\text{Desired Total Makeup Volume to FWST}\} = \text{Desired BAT Volume}$$

$$\frac{\{(2700)-(1076)\}}{(7234)-(1076)} \times \{30000\} = \text{Desired BAT Volume}$$

$$\frac{\{1624\}}{6158} \times \{30000\} = \text{Desired BAT Volume}$$

.26 x {30000} = Desired BAT Volume or 7,912 gallons ± 372 gallons

OR between 7,540 and 8,284 gallons

JPM CUE SHEET #2

INITIAL CONDITIONS:

- The plant was at 100% power when a leak developed on the FWST.
- FWST Level dropped to 440 inches before leak was isolated.
- Enclosure 4.4, "FWST Makeup Using the RHT," of OP/1/A/6200/014, "Refueling Water System" is in progress and completed through Step 3.9.
- LCO 3.5.4, Refueling Water Storage Tank (RWST), was entered 10 minutes ago.
- Chemistry has provided the following information:
  - BAT Boron Conc. = 7234 ppm
  - RHT Boron Conc.= 1076 ppm
  - FWST Make up Boron Concentration: Use COLR Minimum
- The BOP has just completed the Doer Calculation of Step 3.10 of Enclosure 4.4, "FWST Makeup Using the RHT," and has asked you to perform a Separate Verification on the calculation.

INITIATING CUE:

Perform the Separate Verification of the calculation in Step 3.10 of Enclosure 4.4 to confirm the amount of Boric Acid that must be added from the Boric Acid Tank (BAT), in order to raise the FWST Level to 480" using the RHT.

AFTER the calculations have been completed and verified in the FWST make up procedure, an **80 gpm** Makeup is started to the FWST, and continues for **1 hour.**

At the end of this 1 hour period:

What is the status of compliance with LCO 3.5.4?

FWST Temperature = 85 Deg FWST [B] = 2775 ppm

DRAFT

JPM A1b SRO

DRAFT

Facility: McGuire | Task No.:

Task Title: Determine Proper Shift Staffing | JPM No.: 2009 Admin - JPM A1b SRO

K/A Reference: GK/A 2.1.5 (2.9/3.9)

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:

- Units 1 and 2 are at 100% power.
- It is Wednesday night at 1900. All persons scheduled to work, except Alex (who has called in sick), have reported for work **(See Attached Sheet)**.
- Three individuals have expressed concerns regarding overtime limitations, and present their recent work history **(See Attached Sheet).**
- All SROs and ROs are qualified Fire Brigade Leaders.

Task Standard: The operator will evaluate the work history of three individuals in accordance with section 200.6 of NSD 200, and determine that Mark (OAC U1 RO) cannot report for work, however, Owen (AUX (ND 695') UNIT 1) and Dennie (5TH ROUNDS) may report for work. The operator assigns all other personnel reporting to work in accordance with the attached Key, and identifies that STA must be held over from the previous shift, and that one RO must be held over, or a Request for Work Hours Extension must be approved.

Required Materials: None

General References: OMP 5-8, Shift Supervision Turnovers.
OMP 2-2, Conduct of Operations.

NSD-200, Overtime Control.

NSD-112, Fire Brigade Organization, Training and Responsibilities.

McGuire Emergency Plan, Figure B-1, MNS Minimum Staffing Requirements for Emergencies.

SLC 16.3.1, Site Fire Brigade.

SLC 16.3.4, Minimum Station Staffing Requirements.

Technical Specification 5.2, Organization.

Handouts:

OMP 5-8, Shift Supervision Turnovers, Enclosure 12.1, page 4 of 9.

NSD-200, Overtime Control.

A Shift Work Schedule (Page 11 of 12 of this JPM).

Work History of the three individuals who have arrived for work but expressed concerns regarding Overtime limitations (Page 12 of 12 of this JPM).

Initiating Cue:

- Evaluate the work history of the three individuals who have expressed overtime limitation concerns; and then assign personnel to a shift position on Attachment 12.1, Control Room Supervisor Turnover Checklist, in accordance with the attached Work Schedule.
- Identify any arriving personnel that cannot be assigned to a shift position.
- Hold over personnel and/or call in additional personnel ONLY if the minimum staffing cannot be met.

Time Critical Task: NO

Validation Time: 25 minutes

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last three Pages of this JPM), OMP 5-8 Shift Supervision Turnovers (Enclosure 12.1, page 4 of 9), and NSD-200 (Overtime Control).

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*1	(NSD 200, Steps 200.6/ 200.6.1-4) The operator compares the work history of the three employees with OT concerns to the requirements of NSD 200.	The operator evaluates **Mark** (OAC U1 RO) and determines: • Work period of 11.75 hours (.25 hour TOT) • Rest period of 11.75 hours • Work period of 15.75 hours (.25 hour TOT) • Rest period of 7.5 hours. **Mark** cannot report to work because a rest period of only 7.5 hrs has occurred. (Needs at least .5 hours rest period). The operator evaluates **Owen** (AUX (ND 695') UNIT 1) and determines: • Work period of 15.25 hours (.25 hour TOT) • Rest period of 8 hours • Work period of 12.5 hours (.25 hour TOT) • Rest period of 11 hours **Owen** meets all OT limits. The operator evaluates **Dennie** (5TH ROUNDS) and determines: • Work period of 13.75 hours (.25 hour TOT) • Rest period of 8 hours • Work period of 14 hours (.25 hour TOT) • Rest period of 11 hours **Dennie** meets all OT limits.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*2	(OMP 5-8, Attachment 12.1, Step 1) Minimum Crew Composition: Operations Shift Manager.	The operator observes the Work Schedule and assigns **Tim** to position #1.		
*3	(Step 2) Minimum Crew Composition: Shift Technical Advisor.	The operator observes the Work Schedule and holds over current STA (position #2) until replacement for Alex arrives.		
*4	(Step 3) Minimum Crew Composition: Control Room Supervisor.	The operator observes the Work Schedule and assigns **Eric** to position #3.		
*5	(Step 4) Minimum Crew Composition: Off-Site Communicator.	The operator observes the Work Schedule and assigns **Randy** to position #4.		
*6	(Step 5) Minimum Crew Composition: Plant SRO.	The operator observes the Work Schedule and assigns **Todd** to position #5.		
*7	(Step 6) Minimum Crew Composition: Second Active SRO.	The operator observes the Work Schedule and assigns **Todd or Randy** to position #6.		
*8	(Step 7) Minimum Crew Composition: Reactor Operators.	The operator recognizes that **Mark cannot be assigned to work**, and his position (Unit 1 OAC RO) must be held over for 30 minutes. **OR** A **Request for Work Hours Extension** per NSD-200 must be completed prior to assuming duty. The operator observes the Work Schedule and assigns Joe, Kevin, and Rick as U2 OAC RO, U2 BOP, and U1 BOP. (**In any order**).		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*9	(Step 8) Minimum Crew Composition: Non-Licensed Operators.	The operator observes the Work Schedule and assigns **Owen** to the U1 NLO position. The operator observes the Work Schedule and assigns **Derek** to the U2 NLO position. The operator observes the Work Schedule and assigns **Dennie** to the Designated SSF position. **Note: (Failure Criteria)** **These individuals cannot fill the FB Slot.**		
*10	(Step 9) Minimum Crew Composition: SLC Required Fire Brigade.	The operator observes the Work Schedule and assigns **Todd** to the Fire Brigade Leader position (A). The operator observes the Work Schedule and assigns **Bob** to the Fire Brigade member position (B1). The operator observes the Work Schedule and assigns **Ron** to the Fire Brigade member position (B2). The operator observes the Work Schedule and assigns **Dwight** to the Fire Brigade member position (B3). The operator observes the Work Schedule and assigns **SPOC-Monty** to the Fire Brigade member position (B4).		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*11	(Step 10) Minimum Crew Composition: Supplemental Fire Brigade.	The operator observes the Work Schedule and assigns **Chris** to the Supplemental Fire Brigade member position (1). The operator observes the Work Schedule and assigns **Wayne** to the Supplemental Fire Brigade member position (2). The operator observes the Work Schedule and assigns **SPOC-Doug** to the Supplemental Fire Brigade member position (3).		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2009 Admin - JPM A1b SRO

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

KEY:

Shift Crew Position	Name	Required By
1. Operations Shift Manager (OSM)	Tim	SLC 16.13.4
2. Shift Technical Advisor (STA)	Holdover	SLC 16.13.4
3. Control Room Supervisor (Active SRO)	Eric	SLC 16.13.4
4. Offsite Communicator (SRO)	Randy	E-Plan Sect B, Fig 1
5. Plant SRO	Todd	OMP 2-2
6. Second Active SRO	Randy or Todd	SLC 16.13.4
7. Reactor Operator (RO)		
Unit 1 OATC	Holdover	SLC 16.13.4
Unit 1 BOP	Joe	SLC 16.13.4
Unit 2 OATC	Kevin	SLC 16.13.4
Unit 2 BOP	Rick	SLC 16.13.4
8. Non-Licensed Operators (NLO)		
Unit 1	Owen	SLC 16.13.4
Unit 2	Derek	SLC 16.13.4
Designated SSF Operator	Dennie	SLC 16.13.4
9. SLC Required Fire Brigade		
A. Leader (RO or SRO)	A. Todd	SLC 16.13.1 & 4
B. Brigade Members	B1. Ron	SLC 16.13.1 & 4
	B2. Bob	SLC 16.13.1 & 4
	B3. Dwight	SLC 16.13.1 & 4
	B4. Monty	SLC 16.13.1 & 4
10. Supplemental Fire Brigade	1. Chris	NSD 112
(Not SLC Related)	2. Wayne	NSD 112
	3. Doug	NSD 112

NOTE: Joe, Kevin, and Rick may fill any one of the RO positions.

JPM CUE SHEET

Initial Conditions:

- Units 1 and 2 are at 100% power.
- It is Wednesday night at 1900. All persons scheduled to work, except Alex (who has called in sick), have reported for work **(See Attached Sheet)**.
- Three individuals have expressed concerns regarding overtime limitations, and present their recent work history **(See Attached Sheet).**
- All SROs and ROs are qualified Fire Brigade Leaders.

INITIATING CUE:

- Evaluate the work history of the three individuals who have expressed overtime limitation concerns; and then assign personnel to a shift position on Attachment 12.1, Control Room Supervisor Turnover Checklist, in accordance with the attached Work Schedule.
- Identify any arriving personnel that cannot be assigned to a shift position.
- Hold over personnel and/or call in additional personnel ONLY if the minimum staffing cannot be met.

Work History of the three individuals who have arrived for work but expressed concerns regarding Overtime limitations:

Operator	Monday	Tuesday	Wednesday
Mark	**1900** Reports to shift **1915** Turnover complete assumes duties	**0700** Relief arrives **0715** Turnover complete stands relieved ----------HOME---------- **1900** Reports to shift **1930** Turnover complete assumes duties	**0715** Relief arrives, but plant transient delays turnover. **0745** Turnover starts **0800** Turnover complete stands relieved **0800-1130** Attends CRIP Team meeting. ----------HOME---------- **1900** Reports to shift
Owen	**1915** Reports to shift **1930** Turnover complete assumes duties	**0800** Relief arrives, but goes home sick **1045** Alternate relief arrives **1100** Turnover complete stands relieved ----------HOME---------- **1900** Reports to shift **1915** Turnover complete assumes duties	**0745** Relief arrives **0800** Turnover complete stands relieved ----------HOME---------- **1900** Reports to shift
Dennie	**1915** Reports to shift **1930** Turnover complete assumes duties	**0800** Relief calls out late **0915** Alternate relief arrives **0930** Turnover complete stands relieved ----------HOME---------- **1730** Reports to shift for scheduled Just In Time Training (JITT) **1815** Turnover starts **1830** Turnover complete assumes duties	**0745** Relief arrives **0800** Turnover complete stands relieved ----------HOME---------- **1900** Reports to shift

JPM CUE SHEET

"A" Shift

DATE	**May 11, 12, 13/09**	**SCHEDULE**	**Mon-Wed/Nights**
OSM	Tim (SRO)	**WCC/STA**	Alex (SRO/STA)
Ext 2140	**8-777-7534**	**Ext 4276**	**8-777-4517**

CONTROL ROOM SRO	Eric (SRO)	
Mark (RO)		Kevin (RO)
OAC RO UNIT 1		**OAC RO UNIT 2**
Joe (RO)		Rick (RO)
BOP RO UNIT 1		**BOP RO UNIT 2**
PLANT SRO (8-778-2710)	Todd (SRO)	
Owen (NLO)		Derek (NLO)
AUX (ND 695') UNIT 1		**AUX (ND MIDGET HOLE) U-2**
Bob (NLO)		Ron (NLO)
TURB UNIT 1	Dennie (NLO)	**TURB UNIT 2**
	5TH ROUNDS	

W.C/EMERG. COMM.SRO (8-777-9881) Randy (SRO)

WORK CONTROL EXTRA's

Monday	Dwight (NLO), Chris (NLO), Wayne (NLO)
Tuesday	Same
Wednesday	Same

FIRE BRIGADE (Group Call 8-777-5822)

	LEADER:
Monday	Todd, Bob, Ron, Dwight, Chris, Wayne, SPOC (Monty), SPOC (Doug)
Tuesday	Same
Wednesday	Same

CCC U2/Bpr312 (Ext. 2554)	**N/A**	**STAFF SRO/RO**	***N/A***

SCHEDULED OFF

Monday	Fred, Steve
Tuesday	Same
Wednesday	Same

DRAFT

JPM A2 SRO

DRAFT

VERIFICATION OF COMPLETION

Facility: McGuire Task No.:

Task Title: Perform Daily Surveillance Items Checklist JPM No.: 2009 Admin - JPM A2 SRO

K/A Reference: GK/A 2.2.44 (4.2/4.4)

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:

- Unit 1 is in Mode 1 at 100% power.
- Enclosure 13.1, Daily Surveillance Items Checklist, of PT/1/A/4600/003B, "Daily Surveillance Items," has been completed.
- Enclosure 13.2, NAC-UMS Cask Monitoring, of PT/1/A/4600/003B, "Daily Surveillance Items," has been completed.

Task Standard: The Operator will review the completed Enclosure 13.1, Daily Surveillance Items Checklist, and Enclosure 13.2, NAC-UMS Cask Monitoring, and verify applicable surveillance items meet specified acceptance criteria. For surveillance items NOT meeting Acceptance Criteria, all required action will be identified.

Required Materials: Reference Cart with all General References available.

General References: PT/1/A/4600/003B, Daily Surveillance Items.
McGuire Technical Specifications.
McGuire Selected Licensee Commitments Manual.
NSD 704, Technical procedure Use and Adherence.

Initiating Cue:	Evaluate the completed Enclosures of PT/1/A/4600/003B (Daily Surveillance Items Checklist). Identify all Technical Specification/SLC required ACTION, as well as all other actions that must be taken. Complete paperwork as required.

Handouts:

PT/1/A/4600/003B, Enclosure 13.1, Daily Surveillance Items Checklist, completed as follows:

Place an initial in routine daily surveillance Block, record "1" in Mode of Operation Block, and record present date. Check box for 1am – 7am for Time performed.

Place initials of performer in "Initials" block for the following:

Page 1 of 8

All but:

- Reactor Trip Bypass Breakers (Circle Note 24, NA/Initials)
- VCT Level (Item 1)

Page 2 of 8

All but:

- 1EMF-31 (Turbine Bldg Sump Disch) Channel Check (Item 3)
- Also, underline "Begin cooling FWST at 95°F" in FWST Solution Temperature Maximum Acceptance Criteria Block.(Item 2)

Page 3 of 8

All but:

- 1EMF-39L (Circle Note 26, NA/Initials)

Page 4 of 8

All but:

- Unit Vent Flow Rate Monitor (1VALP-5120) (Item 4)
- Place "NA" in the three surveillance items not required in Mode 1. (Bottom three)

Appendix C. 704. Procedure Discrepancies Process Record completed as follows:

Station: McGuire Unit 1

Procedure No: PT/1/A/4600/003B

Procedure Title: Daily Surveillance Items Checklist

Date(s) Performed: Current Date

Item Number	Procedure Step	Description
1	Enclosure 13.1 Page 1 of 8	1NVP5760 and 1NVP5763 > 5%
2	Enclosure 13.1 Page 2 of 8	FWST Temperature is 97°F
3	Enclosure 13.1 Page 2 of 8	1EMF-31 Operate light NOT lit. Source Check unsuccessful
4	Enclosure 13.1 Page 4 of 8	Unit Vent Flow Rate Monitor (1VALP-5120) Reading < 15%

PT/1/A/4600/003B, Enclosure 13.2, NAC-UMS Cask Monitoring, completed (without error) as follows:

Step 1.1 - check mark.

Step 1.2 – Initialed.

Step 1.2.1 - check mark.

Step 1.2.2.1 - check mark.

Step 1.2.2.2 - check mark.

Step 1.2.2.3.A - check mark.

Step 1.2.2.3.B – NA/Initialed.

Step 1.2.2.4 – check mark in first box.

Step 1.2.3 – first three check boxes checked.

Step 1.2.4 – Initialed.

Step 1.2.5 – Initialed.

Step 1.2.6 - check mark.

Step 1.2.7 - check mark.

Step 1.3 – NA/Initialed.

Step 1.4.1 - check mark.

Step 1.4.2 - check mark.

Step 1.5 – NA/Initialed.

Table 13.2-1 Page 4 of 6

Ambient temperature 68 °F				
Cask #	Cask Avg Temp	Actual Temp Difference	Initial	Inlet and Outlet Screens Clear
0FCTKN001	112	44	MSS	NA
0FCTKN002	117	49	MSS	NA
0FCTKN003	108	40	MSS	NA
0FCTKN004	109	41	MSS	NA
0FCTKN005	112	44	MSS	NA
0FCTKN006	111	43	MSS	NA
0FCTKN007	119	51	MSS	NA
0FCTKN008	105	37	MSS	NA
0FCTKN009	110	42	MSS	NA

Table 13.2-1 Page 5 of 6

Ambient temperature 68 °F				
Cask #	Cask Avg Temp	Actual Temp Difference	Initial	Inlet and Outlet Screens Clear
0FCTKN0010	112	44	MSS	NA
0FCTKN0011	110	42	MSS	NA
0FCTKN0012	119	51	MSS	NA
0FCTKN0013	108	40	MSS	NA
0FCTKN0014	117	49	MSS	NA
0FCTKN0015	110	42	MSS	NA
0FCTKN0016	108	40	MSS	NA
0FCTKN0017	118	50	MSS	NA
0FCTKN0018	NA	NA	NA	NA
0FCTKN0019	NA	NA	NA	NA

Table 13.2-1 Page 6 of 6

Ambient temperature 68 °F				
Cask #	Cask Avg Temp	Actual Temp Difference	Initial	Inlet and Outlet Screens Clear
0FCTKN0020	111	43	MSS	NA
0FCTKN0021	110	42	MSS	NA
0FCTKN0022	117	49	MSS	NA
0FCTKN0023	108	40	MSS	NA
0FCTKN0024	112	44	MSS	NA
0FCTKN0025	NA	NA	NA	NA
0FCTKN0026	NA	NA	NA	NA
0FCTKN0027	NA	NA	NA	NA
0FCTKN0028	NA	NA	NA	NA
0FCTKN0029	NA	NA	NA	NA

Initial the NO DISCREPANCY block on page 6 of 6.

PT/1/A/4600/003B, Daily Surveillance Items, with Step 12.1-6 marked off for place-keeping.

Step 12.1 - check mark.

Step 12.2 - check mark.

Step 12.3 - check mark.

Step 12.4 – initialed.

Step 12.4.1 - check mark.

Step 12.4.2 - check mark.

Step 12.5 – initialed.

Step 12.6 – NA/Initialed.

Time Critical Task: NO

Validation Time: 25 minutes

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM) and Handout PT/1/A/4600/003B (Body of Procedure), Enclosure 13.1, Enclosure 13.2, and a Discrepancy Sheet marked up as identified in the Handouts Section of the JPM.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
1	(Section 6) Review Limits and Precautions.	The operator reviews Limits and Precautions.		
*2	(Step 12.2) Complete Enclosure 13.1 (Daily Surveillance Items Checklist)	The operator reviews the checklist and the Discrepancy Sheet and observes four discrepancies.		
*3	VCT Level: Control Room indicators 1NVP5760 and 1NVP5763 are NOT within 5% of each other.	The operator recognizes that there are no TS/SLC requirements associated with the VCT level instruments, but that they are required to be within 5% of each other based on SOER 97-1 requirements. **<u>The operator notifies the WCC, or directs that a work request be created, and identifies this on the Discrepancy Sheet.</u>**		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*4	FWST Solution Temperature (Maximum) is ≤ 100°F as read on 1FWP-5030, however the temperature is > 95°F and cooling of the FWST must be commended.	**The operator recognizes that the TS requirements are met for the FWST Temperature, but recognizes that FWST Cooling must begin**. **Note:** This evolution is directed by OP/1/A/6200/014 (Refueling Water System) Enc 4.7. The candidate resources are limited to determine this so it is sufficient that he only identify the requirement to cool the FWST.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*5	1EMF-31 (Turbine Bldg Sump Disch) Channel Check: The operate light is NOT LIT.	The operator addresses SLC 16.11.2-1 (2), Radioactive Liquid Effluent Monitoring Instrumentation, and determines that Table 16.11.2-1 must be checked. The operator addresses Table 16.11.2-1, Instrument 2 and determines that since TR 16.11.2.1 is NOT met and Instrument 2 is NOT OPERABLE, and that ACTION D is required. The operator determines that **SLC 16.11.2 ACTION D.1, D.2 and D.3 apply**, and records this on the Discrepancy Sheet.		
*6	Unit Vent Flow Rate Monitor(1VALP-5120) is reading < 15%	The operator addresses SLC 16.11.7-1 (3d), Radioactive Gaseous Effluent Monitoring Instrumentation, and determines that table 16.11.7-1 must be checked. The operator addresses Table 16.11.7-1, Instrument 3d and determines that since TR 16.11.7.3 is NOT met Instrument 3d is NOT OPERABLE, and that ACTION D is required. The operator determines that **SLC 16.11.7 ACTION D.1 and D.2 Apply**, and records this on the Discrepancy Sheet.		

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2009 Admin - JPM A2 SRO

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

JPM CUE SHEET

INITIAL CONDITIONS:

- Unit 1 is in Mode 1 at 100% power.
- Enclosure 13.1, Daily Surveillance Items Checklist, of PT/1/A/4600/003B, "Daily Surveillance Items," has been completed.
- Enclosure 13.2, NAC-UMS Cask Monitoring, of PT/1/A/4600/003B, "Daily Surveillance Items," has been completed.

INITIATING CUE:

Evaluate the completed Enclosures of PT/1/A/4600/003B (Daily Surveillance Items Checklist).

Identify all Technical Specification/SLC required ACTION, as well as all other actions that must be taken.

Complete paperwork as required.

DRAFT

JPM A3 SRO

DRAFT

VERIFICATION OF COMPLETION

Facility: McGuire Task No.:

Task Title: Approve a Gaseous Waste Release Permit JPM No.: 2009 Admin - JPM A3 SRO

K/A Reference: GK/A 2.3.6 (2.0/3.8)

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:

- OP/0/A/6200/019, Enclosure 4.1, Waste Gas Decay Tank Release to Unit Vent, is in progress in preparation for release of the C WGDT, and completed through Step 3.11.
- RP has just delivered the GWR Release Package to the Control Room.

Task Standard: The operator will review the GWR Package and discover three errors, and delay approval until the package is corrected.

Required Materials: Copy of current Unit 1 TSAIL Report.

General References: OP/0/A/6200/019, Waste Gas Decay Tank Release
OP-MC-WE-RGR, Radiological Gas Release

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM) and Handout GWR Package # 2009010 (modified as described), Enclosure 4.1 of OP/0/A/6200/019 marked up for place-keeping through Step 3.11, and a current copy of Unit 1 TSAIL Report.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*1	(Enclosure 4.1, Step 3.12, Bullet 1) Control Room SRO performs the following: Ensure Discharge Document is complete. Ensure GWR document agrees with release procedure.	The operator reviews the GWR package and discovers: The GWR Release ID states WGDT D, when it should state WGDT C.		
*2	(Enclosure 4.1, Step 3.12, Bullet 1) Control Room SRO performs the following: Ensure Discharge Document is complete. Review recommended release rate vs. calculated release rate.	The operator reviews the GWR Package and discovers that the Recommended Release Rate is > the Most Restrictive Release Rate (numbers reversed).		
3	(Enclosure 4.1, Step 3.12, Bullet 1) Control Room SRO performs the following: Ensure Discharge Document is complete. Review controlling EMF operability (1EMF-36 or 0EMF-50) and any necessary inoperable actions.	The operator reviews the GWR Package and determines that EMF50L is the controlling EMF and that it is OPERABLE.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*4	(Enclosure 4.1, Step 3.12, Bullet 1) Control Room SRO performs the following: Ensure Discharge Document is complete. Review expected range of EMF, Trip 1 and Trip 2 setpoints.	The operator reviews the GWR Package and discovers that the Trip 1 and Trip 2 setpoints are the same.		
5	(Enclosure 4.1, Step 3.12, Bullet 1) Control Room SRO performs the following: Ensure Discharge Document is complete. Checks Waste Gas Discharge Flow Monitor Operability.	The operator reviews the Unit 1 TSAIL Report and determines that the Waste Gas Discharge Flow Monitor is OPERABLE.		
6	(Enclosure 4.1, Step 3.12, Bullet 1) Control Room SRO performs the following: Ensure Discharge Document is complete. Review Special Instructions.	The operator reviews the GWR Package and determines that there are no special instructions.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*7	(Enclosure 4.1, Step 3.12, Bullet 4) IF WGDT approved for release, signs the Discharge Document.	The operator identifies that the following must occur before the Discharge Document can be signed: • The GWR Release ID is changed to WGDT C. • The Recommended Release Rate and Most Restrictive Release Rate are corrected. • The Trip 1 and Trip 2 setpoints are corrected.		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2009 Admin - JPM A3 SRO

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

JPM CUE SHEET

INITIAL CONDITIONS:

- OP/0/A/6200/019, Enclosure 4.1, Waste Gas Decay Tank Release to Unit Vent, is in progress in preparation for release of the C WGDT, and completed through Step 3.11.
- RP has just delivered the GWR Release Package to the Control Room.

INITIATING CUE:

RP has asked you to review and approve GWR Package # 2009010 for the C Waste Gas Decay Tank by performing Step 3.12 of Enclosure 4.1 of OP/0/A/6200/019, Waste Gas Decay Tank Release.

Identify all issues found (if any) which would prevent approval.

DRAFT

JPM A4 SRO

DRAFT

VERIFICATION OF COMPLETION

Facility:	McGuire	Task No.:	
Task Title:	Classify an Emergency Event	JPM No.:	2009 Admin - JPM A4 SRO
K/A Reference:	GK/A 2.4.41 (2.9/4.6)		

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:

0100 Unit 1 and Unit 2 are in Mode 1 at 100% power.

0100 The following Radiation Monitors come into alarm simultaneously:

- 1EMF-48, Reactor Coolant Rad Hi
- 1EMF-18, Reactor Coolant Filter 1A
- 1EMF-19, Reactor Coolant Filter 1B

0101 The crew entered and completed AP/1/A/5500/18, High Activity in Reactor Coolant.

0156 Chemistry has determined that the increased radiation levels are due to fuel failure, and report that the Dose Equivalent Iodine levels have stabilized at 70 µc/gm.

0215 Station management has directed that Unit 1 be brought to Hot Standby within the next 6 hours.

0302 During the shutdown, a 20 gpm tube leak develops on the B Steam Generator, and the crew enters AP/1/A/5500/10, NC System Leakage Within the Capacity of Both NV Pumps.

0334 The B MSIV inadvertently closes and the reactor trips. The crew enters EP/1/A/5000/E-0, Reactor Trip or Safety Injection.

0335 Based on slowly decreasing Pzr pressure, the crew manually actuates Safety Injection.

0340	The crew receives a report that a Steam Generator Safety valve on the B Steam Generator has lifted and stuck partially open causing steam to issue into the sky.
0344	The crew transitions to EP/1/A/5000/E-2, Faulted Steam Generator Isolation.
0348	The crew observes Charging flow at 400 gpm, Pzr level stable at 12%, and the B Steam Generator Narrow Range Level increasing with CA flow shutoff.
0349	The crew isolates the B Steam Generator and transitions to EP/1/A/5000/E-3, Steam Generator Tube Rupture. The Safety valve on the B Steam Generator is still stuck partially open.

Task Standard: The operator will declare an Unusual Event at T=0156, update the Unusual Event at T=0302, and declare a Site Area Emergency at T=0344.

Required Materials: Blank Copies of RP/0/A/5700/000, Enclosure 4.1, Fission Product Barrier Matrix.

General References:
RP/0/A/5700/000, Classification of Emergency
AP/1/A/5500/18, High Activity in Reactor Coolant
AP/1/A/5500/10, NC System Leakage Within the Capacity of Both NV Pumps
EP/1/A/5000/E-0, Reactor Trip or Safety Injection
EP/1/A/5000/E-2, Faulted Steam Generator Isolation
EP/1/A/5000/E-3, Steam Generator Tube Rupture
OMP 4-3, Use of Abnormal and Emergency Procedures

Handouts:
RP/0/A/5700/000, Classification of Emergency
Copy of McGuire Technical Specifications

Initiating Cue: Classify the Event in accordance with RP/0/A/5700/000, Classification of Emergency, at the following times:

- Step 5.d of AP/1/A/5500/18, High Activity in Reactor Coolant (0156 on timeline).
- Step 5 of AP/1/A/5500/10, NC System Leakage Within the Capacity of Both NV Pumps (0302 on timeline).
- Upon Transition from E-0 to E-2 (0344 on timeline).

Time Critical Task: NO

Validation Time: 25 minutes

(Denote Critical Steps with an asterisk*)

Provide Candidate with Initial Conditions/Cue (Last Page of this JPM) and Handout RP/0/A/5700/000.

START TIME: _____

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*1	(AP/1/A/5500/18, Step 5.d) REFER TO RP/0/A/5700/000 (Classification of Emergency). Time = 0156	The operator enters RP/0/A/5700/000, Step 2.1 and determines that the plant is in Mode 1. The operator reviews Enclosure 4.1, and determines that there are no Fission Product Barrier EALs exceeded. The operator reviews Enclosures 4.2 through 4.7. The operator determines that **EAL 4.2.U.3,** DEI-131 > TS allowed Limit, is exceeded, and Declares an **Unusual Event**.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*2	(AP/1/A/5500/10, Case I Step 5) REFER TO RP/0/A/5700/000 (Classification of Emergency). Time = 0302	The operator enters RP/0/A/5700/000, Step 2.1 and determines that the plant was in Mode 1 at the start of the event. The operator reviews Enclosure 4.1, and determines a Loss of Containment exists, based on 4.1.C.4, SG Secondary Side Release With Primary-to-Secondary Leakage. The operator records 3 points for the loss of the Containment Barrier in Table on Page 2 of 5 of Enclosure 4.1. With a total of 3 points, the operator determines that an **Unusual Event** exists, based on **4.1.U.2,** Loss of Containment. The operator reviews Enclosures 4.2 through 4.7.		
*3	(OMP 4-3, Steps 7.20.1/7.20.1.1-2) OSM Responsibilities Assume role of Emergency Coordinator upon activation of the Emergency Plan until properly relieved by the Station Manager. Emergency Classification is done properly and in a timely manner. Time = 0344	The operator enters RP/0/A/5700/000, Step 2.1 and determines that the plant was in Mode 1 at the start of the event. The operator reviews Enclosure 4.1, and determines a Loss of Containment exists, based on 4.1.C.4, SG Secondary Side Release With Primary-to-Secondary Leakage.		

STEPS	ELEMENTS	STANDARD	S/U	COMMENTS REQUIRED FOR UNSAT
*3 (Cont'd)		The operator records 3 points for the loss of the Containment Barrier in Table on Page 2 of 5 of Enclosure 4.1. The operator reviews Enclosure 4.1, and determines a Loss of NCS exists, based on 4.1.N.3, SG Tube Rupture. The operator records 5 points for the Loss of the NCS barrier in Table on Page 2 of 5 of Enclosure 4.1. With a total of 8 points, the operator determines that a **Site Area Emergency** exists, based on **4.1.S.3,** Loss of Containment AND Loss or Potential Loss of Any other Barrier. The operator reviews Enclosures 4.2 through 4.7.		

Terminating Cue: **Evaluation on this JPM is complete.**

STOP TIME: _____

VERIFICATION OF COMPLETION

Job Performance Measure No.: 2009 Admin - JPM A4 SRO

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

Initial Conditions:

0100	Unit 1 and Unit 2 are in Mode 1 at 100% power.
0100	The following Radiation Monitors come into alarm simultaneously: • 1EMF-48, Reactor Coolant Rad Hi • 1EMF-18, Reactor Coolant Filter 1A • 1EMF-19, Reactor Coolant Filter 1B
0101	The crew entered and completed AP/1/A/5500/18, High Activity in Reactor Coolant.
0156	Chemistry has determined that the increased radiation levels are due to fuel failure, and report that the Dose Equivalent Iodine levels have stabilized at 70 µc/gm.
0215	Station management has directed that Unit 1 be brought to Hot Standby within the next 6 hours.
0302	During the shutdown, a 20 gpm tube leak develops on the B Steam Generator, and the crew enters AP/1/A/5500/10, NC System Leakage Within the Capacity of Both NV Pumps.
0334	The B MSIV inadvertently closes and the reactor trips. The crew enters EP/1/A/5000/E-0, Reactor Trip or Safety Injection.
0335	Based on slowly decreasing Pzr pressure, the crew manually actuates Safety Injection.
0340	The crew receives a report that a Steam Generator Safety valve on the B Steam Generator has lifted and stuck partially open causing steam to issue into the sky.
0344	The crew transitions to EP/1/A/5000/E-2, Faulted Steam Generator Isolation.
0348	The crew observes Charging flow at 400 gpm, Pzr level stable at 12%, and the B Steam Generator Narrow Range Level increasing with CA flow shutoff.
0349	The crew isolates the B Steam Generator and transitions to EP/1/A/5000/E-3, Steam Generator Tube Rupture. The Safety valve on the B Steam Generator is still stuck partially open.

INITIATING CUE:

Classify the Event in accordance with RP/0/A/5700/000, Classification of Emergency, at the following times:

- Step 5.d of AP/1/A/5500/18, High Activity in Reactor Coolant (0156 on timeline).
- Step 5 of AP/1/A/5500/10, NC System Leakage Within the Capacity of Both NV Pumps (0302 on timeline).
- Upon Transition from E-0 to E-2 (0344 on timeline).