Facility: TMI Unit 1 Date of Examination: July 23, 2001

Examination Level (circle one) RO / SRO Operating Test Number: _____

	Administrative Topic/Subject Description	Describe method of evaluation: 1. ONE Administrative JPM, OR 2. Two Administrative Questions
A.1	Conduct of Operations Ability to obtain and interpret station reference materials. KA 2.1.25 CFR 41.10/43.5/45.12 RO 2.9 SRO 3.1	JPM: Candidate will be tasked with determining the amount of Boric Acid required to borate from Hot Standby to Cold Shutdown conditions.
	Ability to locate and use procedures and directives related to shift staffing and activities. KA 2.1.5 CFR 43.2/43.5/45.3 SRO 3.4 TMI Task: 3410180303 TIF 2.93	JPM: Candidate will be tasked with determining actions required for shift staffing issues.
A.2	Equipment Control Tagging and clearance. K/A 2.2.13 CFR 41.10/45.13 RO 3.6 SRO 3.8 TMI Task 1190120301 TIF 3.86	JPM: SRO will be tasked with determining the clearance points for a leak on the screen wash system. Recent TMI event.
A.3	Radiation Control Knowledge of the requirements for reviewing and approving release permits. KA 2.3.6 CFR 43.4/45.10 RO 2.1 SRO 3.1 TMI Task 068C010101 TIF 2.5	JPM: Candidate will be tasked with approving a liquid release permit.
A.4	Emergency Procedures/Plan Emergency Action Level and Classification KA 2.4.41 CFR 43.5/45.11 SRO 4.1 TMI Task 5001045001 TIF 3.35	JPM: Candidate will be tasked with classifying an event, provide a PAR and initiate the initial notification process.

TMI-1 OPERATOR TRAINING

JOB PERFORMANCE MEASURE

A.1-1

	SIGNATURE	DATE
Submitted By:	J. L. Carney	6-3-01
Validated By:	James A. Hutchison	6-3-01
Reviewed by: Lead Exam Developer	W. L. Ogg Jr.	6/3/01
Approved By: Facility Representative	Randy S. Campbell	6-3-01

TASK TITLE: **BORATION TO COLD SHUTDOWN CALCULATION**

TASK NUMBER: 0008150401 TIF: 3.0

K/A REFERENCE: System: NA
K/A: 2.1.25
Rating(RO/SRO): 2.9/3.1

POSITION: SRO ☒ RO ☒ NLO ☐

EVALUATION METHOD: PERFORM ☒ SIMULATE ☐

EVALUATION LOCATION: SIMULATOR ☐ IN-PLANT ☐ CONTROL ROOM ☐ OTHER ☒

TASK STANDARDS: Examinee calculates the required makeup volumes from the BAMT and RCBT within the tolerances described within this JPM.

APPROXIMATE COMPLETION TIME: 20 minutes

TIME-CRITICAL TASK COMPLETION TIME: NA minutes

REQUIRED TOOLS OR MATERIALS: Calculator and Ruler / OP 1103-4 Soluble Poison Control.

REFERENCES: OP 1103-4 Soluble Poison Control

ALTERNATE PATH JPM? NO

SIMULATOR SETUP: NA

INITIALIZATION: NA

EVENT TRIGGERS: N/A

MALFUNCTIONS: N/A

REMOTE FUNCTIONS: N/A

OVERRIDES: N/A

MONITOR: N/A

READ TO STUDENT

When I tell you to begin, you are to **CALCULATE THE REQUIRED AMOUNT OF MAKEUP FROM THE BAMT AND RCBT 'C' IN ORDER TO COOLDOWN FROM 540°F TO 150°F**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

INITIAL CONDITIONS:

The reactor has been shutdown for 5 days.

500 EFPD

RCS temperature is 540°F

RCS Boron: 400 ppmB.

RCBT 'C' boron concentration is 1120 ppmB.

BAMT boron concentration is 17500 ppmB.

The Plant must be cooled down to 150°F in order to repair the Pressurizer PORV.

INITIATING CUE:

The Shift Manager directs you to calculate the required amount of makeup from the BAMT and RCBT 'C' in order to cooldown from 540°F to 150°F.

ARE THERE ANY QUESTIONS?

TIME CRITICAL: NO

JPM INSTRUCTION SHEET

DIRECTIONS TO STUDENT:

When I tell you to begin, you are to **CALCULATE THE REQUIRED AMOUNT OF MAKEUP FROM THE BAMT AND RCBT 'C' IN ORDER TO COOLDOWN FROM 540°F TO 150°F**. Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

INITIAL CONDITIONS:

The reactor has been shutdown for 5 days.

500 EFPD

RCS temperature is 540°F

RCS Boron: 400 ppmB.

RCBT 'C' boron concentration is 1120 ppmB.

BAMT boron concentration is 17500 ppmB.

The Plant must be cooled down to 150°F in order to repair the Pressurizer PORV.

INITIATING CUE:

The Shift Manager directs you to calculate the required amount of makeup from the BAMT and RCBT 'C' in order to cooldown from 540°F to 150°F.

TIME CRITICAL: NO

***Denotes Critical Elements**
#Denotes Sequential Step

#	STEP	STANDARD	S/U
*1	Examinee obtains a copy of OP 1103-4 and using Enclosure 5 calculates the required amount of makeup from the BAMT and RCBT 'C'.	1. The examinee calculates the makeup volumes within the allowable tolerances provided below. V_{BAMT} = 3749 to 3864 gals. V_{RCBT} = 15886 to 17001 gals. **NOTE:** Allowances used to determine calculation. Fig. 1: 1260 ± 12 ppmB Fig. 2 70250 ± 250 gals. 90500 ± 250 gals	

END TASK

JPM CHANGE HISTORY PAGE

REVISION	DATE	REFERENCE TITLE	DESCRIPTION (Include AI # if Appropriate)
0	5/30/01	NA	New JPM.

TMI-1 OPERATOR TRAINING

JOB PERFORMANCE MEASURE

A.1.2

	SIGNATURE	DATE
Submitted By:	Robin J Lane	7/16/01
Validated By:	J Fleming	7/16/01
Reviewed by: Lead Exam Developer	W. L. Ogg Jr.	7/23/01
Approved By: Facility Representative	R. S. Campbell	7-23-01

TASK TITLE: **ADMINISTRATIVE REQUIREMENTS FOR SHIFT MANNING ACTIVITIES - WORKING HOUR LIMITATIONS**

TASK NUMBER: 3410180303 TIF: 2.93

K/A REFERENCE: System:
K/A: 2.1.5
Rating: 3.4

POSITION: SRO ☒ RO ☐ NLO ☐

EVALUATION METHOD: PERFORM ☒ SIMULATE ☐

EVALUATION LOCATION: SIMULATOR ☐ IN-PLANT ☐ CONTROL ROOM ☐ OTHER ☒

TASK STANDARDS: Examinee determines working hour limitations would be exceeded. Examinee completes Enclosure 1 of AP 1031.

APPROXIMATE COMPLETION TIME: **15** minutes

TIME-CRITICAL TASK COMPLETION TIME: NA

REQUIRED TOOLS OR MATERIALS: AP 1031, Nuclear Plant Staff Working Hours.

REFERENCES: AP 1031, Nuclear Plant Staff Working Hours.

ALTERNATE PATH JPM? NO

SIMULATOR SETUP:

INITIALIZATION: NA

EVENT TRIGGERS: NA

MALFUNCTIONS: NA

REMOTE FUNCTIONS: NA

OVERRIDES: NA

MONITOR: NA

READ TO STUDENT

When I tell you to begin, **YOU ARE TO EVALUATE A WORKERS HOURS FOR MINIMUM STAFFING REQUIREMENTS.** Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

INITIAL CONDITIONS:

You are the Shift Manager for the off-going shift.

The time is 1600 Thursday afternoon.

The oncoming Shift Manager has just informed you that he will need one CRO from your shift to holdover for up to 4 hours in order to maintain minimum shift manning requirements. One of the oncoming CROs has a broken leg. Another CRO from his shift has been recalled from vacation, but can't return to the plant until at least 2200.

One CRO from your shift, John Doe, has volunteered to holdover. His work history for the current shift (0700 to 1900) is as follows:

Saturday - OFF
Sunday - OFF
Monday - 0700 - 1900, excluding shift turnover time
Tuesday - 0700 - 1900, excluding shift turnover time
Wednesday - 0700 - 1900, excluding shift turnover time
Thursday - 0700 - 1600, excluding shift turnover time
Friday - Scheduled off.

INITIATING CUE:

DETERMINE WHETHER JOHN DOE IS ABLE TO HOLDOVER FOR FOUR HOURS AFTER SHIFT WITHOUT VIOLATING WORKING HOUR LIMITATIONS.

ARE THERE ANY QUESTIONS?

TIME CRITICAL: NO

JPM INSTRUCTION SHEET

DIRECTIONS TO STUDENT:

When I tell you to begin, **DETERMINE WHETHER JOHN DOE IS ABLE TO HOLDOVER FOR FOUR HOURS AFTER SHIFT WITHOUT VIOLATING WORKING HOUR LIMITATIONS.** Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

INITIAL CONDITIONS:

You are the Shift Manager for the off-going shift.

The time is 1600 Thursday afternoon.

The oncoming Shift Manager has just informed you that he will need one CRO from your shift to holdover for up to 4 hours in order to maintain minimum shift manning requirements. One of the oncoming CROs has a broken leg. Another CRO from his shift has been recalled from vacation, but can't return to the plant until at least 2200.

One CRO from your shift, John Doe, has volunteered to holdover. His work history for the current shift (0700 to 1900) is as follows:

Saturday - OFF
Sunday - OFF
Monday - 0700 - 1900, excluding shift turnover time
Tuesday - 0700 - 1900, excluding shift turnover time
Wednesday - 0700 - 1900, excluding shift turnover time
Thursday - 0700 - 1600, excluding shift turnover time
Friday - Scheduled off.

***Denotes Critical Elements**
#Denotes Sequential Step

#	STEP	STANDARD	S/U
EXAMINER CUE: DETERMINE WHETHER JOHN DOE IS ABLE TO HOLDOVER FOR FOUR HOURS AFTER SHIFT WITHOUT VIOLATING WORKING HOUR LIMITATIONS.			
1.	Examinee obtains/requests a copy of AP 1031, Nuclear Plant Staff Working Hours.	**NOTE: Provide a copy of AP 1031, Nuclear Plant Staff Working Hours if requested. Examinee may request a procedure list in order to determine appropriate course of action.**	
*2.	Examinee evaluates holdover time to determine if working hour limitations are exceeded.	Examinee determines that requirements of section 4.1.2.2 are exceeded, specifically, working more than 24 hours in a 48-hour period.	
CUE: DIRECT EXAMINEE TO TAKE THE APPROPRIATE ACTION TO PERMIT JOHN DOE TO WORK THE ADDITIONAL FOUR HOURS.			
3	Examinee obtains copy of Enclosure 1 from AP 1031.	**CUE: Provide copy of Enclosure 1 to examinee.**	
4	Examinee enters Plant Manager name on enclosure 1 in the "TO:" area.	Examinee enters "George Gellrich" or "Gellrich" on enclosure 1 in the "TO:" area.	
*5.	Examinee checks off "Request for Deviation"	"Request for Deviation" is checked or X'ed off.	
*6.	Examinee enters date of violation.	Enters today's date.	
*7.	Examinee enters name AND position of individual.	Enters John Doe and CRO or Reactor Operator.	
*8.	Describe deviation/violation.	Enters section 4.1.2.2. (Required for critical task) May provide amplifying information, ie, exceeding 24 hours in a 48 hour period, but not required.	
*9.	Circumstances surrounding the deviation requested or violation.	"Individual required to meet minimum manning requirements for oncoming shift due to medical emergency" or words to that effect.	
*10	Duties performed and potential effect on safety.	Reactor Operator (CRO), responsible for operation of safety related equipment. (Or words to that effect. Must relate safety significance.)	
11.	Actions to be taken to prevent recurrence	No response required. This is an emergent medical condition that could not be foreseen.	
12.	Examinee enters name and date.	Name and date entered.	
END TASK			

JPM CHANGE HISTORY PAGE

REVISION	DATE	REFERENCE TITLE	DESCRIPTION (Include AI # if Appropriate)
0	6/26/01	NA	New JPM.

TMI-1 OPERATOR TRAINING

JOB PERFORMANCE MEASURE

A.2

	SIGNATURE	DATE
Submitted By:	J L Carney	6-3-01
Validated By:	James A Kirkbz	6-3-01
Reviewed by: Lead Exam Developer	N. L. Oyler Jr	6/3/01
Approved By: Facility Representative	Randy S. Campbell	6-3-01

TASK TITLE: **CLEARANCE APPROVAL AND AUTHORIZATION PROCESS**

TASK NUMBER: 1190120301 TIF: 3.86

K/A REFERENCE: System:
K/A: 2.2.13
Rating: 3.8/3.6

POSITION: SRO ☒ RO ☐ NLO ☐

EVALUATION METHOD: PERFORM ☒ SIMULATE ☐

EVALUATION LOCATION: SIMULATOR ☒ IN-PLANT ☐ CONTROL ROOM ☐ OTHER ☐

TASK STANDARDS: Authorization is not granted based on the following errors: 1. Approver and Preparer are identified as same person. 2. Clearance points are inadequate for job.

APPROXIMATE COMPLETION TIME: 20 minutes

TIME-CRITICAL TASK COMPLETION TIME: NA

REQUIRED TOOLS OR MATERIALS: AP 1002, Clearance and Tagging
302 Prints
1107-4, Electrical Distribution Listing

REFERENCES: AP 1002, Clearance and Tagging

ALTERNATE PATH JPM? NO

SIMULATOR SETUP: NA

INITIALIZATION: NA

EVENT TRIGGERS: NA

MALFUNCTIONS: NA

REMOTE FUNCTIONS: NA

OVERRIDES: NA

MONITOR: NA

READ TO STUDENT

When I tell you to begin, you are to **REVIEW AND AUTHORIZE APPLICATION OF TAGS FOR CLEARANCE NUMBER 01000354.** Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

INITIAL CONDITIONS:

The Plant is at 100% power.

Work Order C2000318 was issued to replace the check valve on the discharge of Screen Wash Pump 1B (SW-P-1B).

SW-P-1B is secured.

SW-P-1A is in operation, providing flow to the Screen Wash System.

INITIATING CUE:

The Job Foreman is ready to work the job, and requests that you authorize the clearance for tagging application.

ARE THERE ANY QUESTIONS?

TIME CRITICAL: NO

JPM INSTRUCTION SHEET

DIRECTIONS TO STUDENT:

When I tell you to begin, you are to **REVIEW AND AUTHORIZE APPLICATION OF TAGS FOR CLEARANCE NUMBER 01000354.** Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

INITIAL CONDITIONS:

The Plant is at 100% power.

Work Order C2000318 was issued to replace the check valve on the discharge of Screen Wash Pump 1B (SW-P-1B).

SW-P-1B is secured.

SW-P-1A is in operation, providing flow to the Screen Wash System.

INITIATING CUE:

The Job Foreman is ready to work the job, and requests that you authorize the clearance for tagging application.

TIME CRITICAL: NO

***Denotes Critical Elements**
#Denotes Sequential Step

#	STEP	STANDARD	S/U
INITIATING CUE: AS JOB FOREMAN, PROVIDE CLEARANCE 01000354 TO THE EXAMINEE AND REQUEST THAT THE TAGGING APPLICATION BE AUTHORIZED IN ORDER TO COMMENCE WORK.			
1	Examinee obtains copy of AP 1002, Clearance and Tagging, and begins reviewing the clearance.	Examinee verifies that the revision of AP 1002 is the most recent revision. **CUE: Inform examinee that the copy of AP 1002 is the most recent revision.**	
*2	The person approving the Clearance shall not be the same person that created the Clearance.	Examinee identifies that the clearance is approved, but that Preparer and Approver are the same person, which is not permitted.	
*3	Examinee verifies that the clearance points are adequate to support the job.	Examinee identifies that the clearance points are inadequate. Discharge valve SW-V-1B is not identified on the clearance.	
*4	Examinee identifies that they would not authorize the Clearance based on errors.	Shift Management shall authorize equipment removal from service by completing the "Authorized By" line in accordance with specific station procedures. **NOTE: Errors preclude this step from being completed. Examinee should NOT authorize this clearance.**	

END TASK

JPM CHANGE HISTORY PAGE

REVISION	DATE	REFERENCE TITLE	DESCRIPTION (Include AI # if Appropriate)
0	5/30/2001	N/A	NEW JPM.

TMI-1 OPERATOR TRAINING

JOB PERFORMANCE MEASURE

A.3

	SIGNATURE	DATE
Submitted By:	J. J. Cavanny	6-3-01
Validated By:	James Stubbs	6/3/01
Reviewed by: Lead Exam Developer	W. L. Ogg Jr.	6/3/01
Approved By: Facility Representative	Randy S. Campbell	6-3-01

TASK TITLE: **LIQUID RELEASE PERMIT APPROVAL**

TASK NUMBER: 068C010101 TIF: 2.5

K/A REFERENCE: System: Generic
K/A: 2.3.6
Rating: 2.1/3.1

POSITION: SRO ☒ RO ☐ NLO ☐

EVALUATION METHOD: PERFORM ☒ SIMULATE ☐

EVALUATION LOCATION: SIMULATOR ☐ IN-PLANT ☐ CONTROL ROOM ☐ OTHER ☒

TASK STANDARDS: Examinee identifies the following errors: (1) Radiological analysis not performed by GRCS. (2) no written evaluation and approval by the Chemistry Supervisor for pH and conductivity outside the normal band.

APPROXIMATE COMPLETION TIME: 30 minutes

TIME-CRITICAL TASK COMPLETION TIME: NA

REQUIRED TOOLS OR MATERIALS: ODCM, 6610-ADM-4250.01, Releasing Radioactive Liquid Waste.

REFERENCES: 1029-S, Liquid Radioactive Release; ODCM; 6610-ADM-4250.01, Releasing Radioactive Liquid Waste.

ALTERNATE PATH JPM? NO

SIMULATOR SETUP:

INITIALIZATION: NA

EVENT TRIGGERS: NA

MALFUNCTIONS: NA

REMOTE FUNCTIONS: NA

OVERRIDES: NA

MONITOR: NA

READ TO STUDENT

When I tell you to begin, you are to **REVIEW AND APPROVE A LIQUID RELEASE PERMIT.** Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

INITIAL CONDITIONS:

The plant is stable at 100% power.

Waste Evap. Condensate Storage Tank WDL-T11A is isolated and tagged "DO NOT OPERATE".

The previous Shift Manager has initiated a Liquid Release Permit for WDL-T11A.

WDL-T11A level is 7.8 feet.

The current time is 2000.

INITIATING CUE:

Review and approve the Liquid Release Permit for WDL-T11A.

ARE THERE ANY QUESTIONS?

TIME CRITICAL: NO

JPM INSTRUCTION SHEET

DIRECTIONS TO STUDENT:

When I tell you to begin, you are to **REVIEW AND APPROVE A LIQUID RELEASE PERMIT.** Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

INITIAL CONDITIONS:

The plant is stable at 100% power.

Waste Evap. Condensate Storage Tank WDL-T11A is isolated and tagged "DO NOT OPERATE".

The previous Shift Manager has initiated a Liquid Release Permit for WDL-T11A.

WDL-T11A level is 7.8 feet.

The current time is 2000.

INITIATING CUE:

Review and approve the Liquid Release Permit for WDL-T11A.

TIME CRITICAL: NO

*Denotes Critical Elements
#Denotes Sequential Step

#	STEP	STANDARD	S/U
INITIATING CUE: (As Group Radiological Controls Supervisor, GRCS) Provide the examinee a Liquid Release Permit and direct review and approval of the permit. **Accompanying documents are:** **Computer generated site dose history.** **Forms 1621-1 and 1621-2**			
*1	Examinee reviews the Liquid Release Permit for approval IAW 6610-ADM-4250.01.	The examinee determines that the following errors exist: • GRCS has not reviewed the Radiological Analysis. • Required written evaluation and approval for release from the Chemistry Supervisor is not with the permit. **CUE: Role play as necessary to respond to examinee questions.**	
*2	The Shift Manager signs the form to approve the release IAW 6610-ADM-4250.01 step 4.10.4.	The examinee does NOT sign for approval unless all discrepancies are corrected.	

END TASK

JPM CHANGE HISTORY PAGE

REVISION	DATE	REFERENCE TITLE	DESCRIPTION (Include AI # if Appropriate)
0	5/30/2001	NA	Initial issue.

LIQUID RELEASE PERMIT
RELEASE NUMBER: L 106005

FOR TRAINING USE ONLY

REPLACES FORMS 1621-3, 4, AND 5. INCLUDE FORM 1621-1 AND 2 WITH THIS PRINTOUT

RELEASE INFORMATION COMPLETED BY: JOHN DOE - RADIOLOGICAL CONTROLS TECH A

John Doe - RAD CONTROLS TECH A SIGNATURE

RELEASE RECOMMENDED BY: G.R. Sam - GROUP RADIOLOGICAL CONTROLS SUPERVISOR

RELEASE APPROVED BY: _____ - SHIFT SUPERVISOR (FINAL APPROVAL)

CONTROL ROOM OPERATOR CONTACTED: JAMES SMITH

CALCULATED GPM RR (5 - 27 GPM) : 27.00
MINIMUM ESTIMATED TIME FOR RELEASE : 193. MINUTES
RELEASE DATA:

RML-6 SETPOINT HI ALARM: 1.47E+05 CPM. ___ INITIALS
ALERT ALARM: 1.10E+05 CPM. ___ INITIALS
WDL-V-257/RML-6 HIGH RADIATION INTERLOCK TEST SATISFACTORY. ___ INITIALS
FR-146 ALARM SETPOINT AT: 2.43E+04 GPM. 3.50E+01 MGD. ___ INITIALS
FR-146 (LOW MDCT FLOW) TEST SATISFACTORY ___ INITIALS
FR-84 ALARM SETPOINT AT: 3.00E+01 GPM: ___ INITIALS
FR-84 (HIGH LIQUID RELEASE FLOW) TEST SATISFACTORY. ___ INITIALS
RML-6 OPERABLE PER 1301-1 (CHECK SOURCE) ___ INITIALS
VALVE WDL-V124 (X) OR WDL-V125 ( )
LOADED TO: _____ GPM RELEASE RATE. _____ INITIALS

INSTRUMENT READINGS: EXPECTED READING	READING AT START	READING AFTER 1/4 COMPLETE	READING AFTER 1/2 COMPLETE	READING AFTER 3/4 COMPLETE	READING AFTER RELEASE COMPLETE
FR-84 2.70E+01 GPM					
RML-6 7.36E+04 CPM					
FR-146 2.43E+04 GPM 3.50E+01 MGD					
RML-7 2.05E+02 CPM					

FACSIMILE OF LIQUID RELEASE FORM GENERATED BY LAGER PROGRAM

FOR TRAINING USE ONLY

RELEASE NUMBER: L 106005

FOR TRAINING USE ONLY

RADIOLOGICAL ANALYSIS REVIEWED BY: _____ (GRCS)

DATE/TIME _____ / _____

ESTIMATED VOLUME IN TANK 5200 GALLONS

ANALYSIS	SPECIFIC ACTIVITY MICRO CI/ML	CONTROLLING MICRO CI/ML	SPECIFIC ACTIVITY /CONTROLLING
H 3	3.45E-04	2.00E-03	1.72E-01
CS 137	6.82E-04	1.00E-06	6.82E+02
			6.82E+02 REQUIRED DF

LIQUID RELEASE NUMBER L0106005

SUMMARY OF CHEMISTRY DATA

PH 9.50
CONDUCTIVITY ..... 1.10E+01
BORON 5
CHEMISTRY ANALYSIS PERFORMED BY ..... JANE DOE
SAMPLE ANALYSIS DATE 06/01/01
SAMPLE ANALYSIS TIME (MILITARY) 1800

FOR VALUE OF 11.00 FOR CONDUCTIVITY WITH
VALUE OF 9.50 FOR PH
RELEASE MUST BE APPROVED BY CHEMISTRY SUPERVISOR
OR HIS DESIGNEEE WITH A WRITTEN EVALUATION
ATTACHED TO RELEASE

SUMMARY OF BACKGROUNDS

RML-6 BACKGROUND 2000
RML-7 BACKGROUND 100

VALUES ENTERED .....

CONTROL ROOM OPERATOR NAME ..... JAMES SMITH
MDCT FLOW (GPM) 27000
RIVER FLOW (GPM) ..... 2.0000E+07
ESTIMATED RELEASE DURATION (HOURS) 3.2
ESTIMATED VOLUME (GALLONS) 5200

DILUTION FACTORS CALCULATED.....

TEN PERCENT MPC DILUTION FACTOR ..... 6.82E+02
BORON DILUTION FACTOR ..... 7.14E+00
RML-6 DILUTION FACTOR ..... 1.40E+02

RML-6 MONITOR RESPONSE ..... 7.16E+04

FACSIMILE OF LIQUID RELEASE FORM GENERATED BY LAGER PROGRAM

FOR TRAINING USE ONLY

EXHIBIT 4
Form 1621-1
(Example)

OPERATIONS INPUT TO LIQUID RELEASE PERMIT

L106005
(4) Release Number

(1) Date/Time: 6/1/01 /1255 Requester (Signature): _____ (Shift Mgr.)

(2) ☒ WDL-T-11A Tank A
_____
☐ WDL-T-11B Tank B

(3) Tank Put on Recirculation **(min. of 8 hours)** Time: 0900 Date: 6/1/01
Tank Isolated and "Do Not Operate" Tagged: Time: 1755 Date: 6/1/01
Tank Volume Ft. 7.8 gallons 5219 Recirc Time 9 HRS
Signed/Date _____ / 6/1/01

(32) (Record all start and stop date times)
Time Release Stopped _____ _____
Time Date
Time Release Started _____ _____
Time Date
Total Time of Release _____
Minutes

Tank Level at Start of Release _____ ft. _____ gal.
Tank Level at End of Release _____ ft. _____ gal.
Tank Volume Released (Actual) _____ gal.
MDCT Effluent Totalizer at Stop _____ gal.
MDCT Effluent Totalizer at Start _____ gal.
Total Dilution Flow _____ gal.

(33) Actual Release Rate = Actual Gallons Released =
minutes _____ gpm

(34) Cancelled or Partial Release
State reason this release was cancelled or only partially released:
_____
_____
_____
_____

(35) Release data completed and chemistry notified of actual gallons released:
_____
Signature Date/Time

All data required on this form has been completed. _____
Shift Manager Date/Time

Form 1621-2
(Example)
Chemistry Data Sheet for Releasing Radioactive Liquid Waste

(4) RELEASE NUMBER L106005

NOTE

AFTER COMPLETION FORWARD THIS DATA SHEET ALONG WITH COPIES OF THE GAMMA AND TRITIUM ANALYSIS TO RADIOLOGICAL CONTROLS FOR INCLUSION IN THE RELEASE PERMIT.

		SIGNATURE (PRINT/SIGN)	
(5)	TANK RECIRCULATED ≥ 8 HRS.	BY: J. Smith / J Smith	DATE/TIME 6/1/01 / 1800
(6)	RELEASE SAMPLE(S) COLLECTED	BY: J. Doe / J Doe	DATE/TIME 6/1/01 / 1800
(7)	RELEASE GAMMA SCAN	BY: J. Doe / J Doe	DATE/TIME 6/1/01 / 1800
	RELEASE TRITIUM ANALYSIS	BY: J. Doe / J Doe	DATE/TIME 6/1/01 / 1800
	WEEKLY COMPOSITE SAMPLES	BY: J. Doe / J Doe	DATE/TIME 6/1/01 / 1800

	RESULT	LIMIT
pH	9.50	4.5 - 9.5 (NOTE 1)
CONDUCTIVITY	1.10E+01	<10 uMHO (NOTE 2)
BORON	5	PPM

NOTE

1. The limit of 4.5 - 9.5 will ensure that the NPDES limit of 6 - 9 is not exceeded at the main station discharge to the Susquehanna River.
2. Must be <10 uMHO to consider water with pH less than 6 or greater than 9. If conductivity is >10 uMHO and pH is less than 6.0 or greater than 9.0, release must be approved by Chemistry Supervisor or his designee with a written evaluation attached to release form.

TMI-1 OPERATOR TRAINING

JOB PERFORMANCE MEASURE

A.4

	SIGNATURE	DATE
Submitted By:	J L Carney	6-3-01
Validated By:	James A Stubbs	6-3-01
Reviewed by: Lead Exam Developer	W. A. Off Jr.	6/3/01
Approved By: Facility Representative	Randy S. Campbell	6-3-01

TASK TITLE: **EVENT CLASSIFICATION, OFF SITE NOTIFICATION AND PROTECTIVE ACTION RECOMMENDATION**

TASK NUMBER: 5001045001 TIF: 3.35

K/A REFERENCE: System: Generic
K/A: 2.4.41
Rating: 2.3/4.1

POSITION: SRO ☒ RO ☐ NLO ☐

EVALUATION METHOD: PERFORM ☒ SIMULATE ☐

EVALUATION LOCATION: SIMULATOR ☒ IN-PLANT ☐ CONTROL ROOM ☐ OTHER ☒

TASK STANDARDS: Examinee classifies the event as a General Emergency under G7.1 within 15 minutes of direction to classify the event. Direction to ECC Communications Coordinator to notify off site agencies is given within 15 minutes of event classification. PAR of Sheltering the 10 mile radius around the plant is delivered to the State within 15 minutes of event classification.

APPROXIMATE COMPLETION TIME: 30 minutes

TIME-CRITICAL TASK COMPLETION TIME: Classification: 15 minutes
PAR: 15 minutes

REQUIRED TOOLS OR MATERIALS: None.

REFERENCES: EPIP-TMI-.01, EPIP-TMI-.02 and Emergency Report Form

ALTERNATE PATH JPM? NO

SIMULATOR SETUP:

INITIALIZATION: NA

EVENT TRIGGERS: NA

MALFUNCTIONS: NA

REMOTE FUNCTIONS: NA

OVERRIDES: NA

MONITOR: NA

READ TO STUDENT

When I tell you to begin, you are to **CLASSIFY THE EVENT AND TO INITIATE INITIAL NOTIFICATIONS AS REQUIRED.** Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

INITIAL CONDITIONS:

The plant was stable at 100% power when the following sequence of events occurred:

1600: Security reported an armed hostile force penetrated the Control Tower carrying what appeared to be grenades. This was identified as a valid Code Red.

1602: An explosion occurred in the Control Tower, immediately followed by loss of the 1E 4160V Bus. Numerous fire alarms consistent with the location of the 1E 4160V Bus are received.

1603: Security reports all hostile force members have been neutralized, and that there is a fire on the third Floor of the Control Tower.

1605: Security reports that the fire is out and that the 1E 4160V Bus is severely damaged. The plant is stable at 100% power.

The current time is 1605.

Wind Speed 12 mph.

Wind direction is from 295.

The EOF is NOT activated.

INITIATING CUE:

Classify the event based on current plant conditions AND initiate initial notifications as required.

ARE THERE ANY QUESTIONS?

TIME CRITICAL: YES

JPM INSTRUCTION SHEET

DIRECTIONS TO STUDENT:

When I tell you to begin, you are to **CLASSIFY THE EVENT AND TO INITIATE INITIAL NOTIFICATIONS AS REQUIRED.** Before you start, I will describe the general plant conditions, state the initiating cues, and answer any questions. Perform procedure steps and make notifications as if you were actually performing the task.

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The current time is 1605.

Wind Speed 12 mph.

Wind direction is from 295.

The EOF is NOT activated.

INITIATING CUE:

Classify the event based on current plant conditions AND initiate initial notifications as required.

TIME CRITICAL: YES

***Denotes Critical Elements**
#Denotes Sequential Step

#	STEP	STANDARD	S/U
INITIATING CUE: Classify the event base on current plant conditions AND initiate initial notifications as required. **NOTE: Record time that direction to classify the event is given. _____**			
*1	Examinee obtains a copy of EPIP-TMI-.01, Emergency Classification and Basis and classifies the event.	The examinee determines that a General Emergency exists IAW G7.1, Security Event resulting in inability to reach or maintain Cold Shutdown as indicated by: Loss of physical control of remote shutdown capability. **NOTE: This determination must be made within 15 minutes from the time the examiner provides direction to classify the event.** **Time of Classification: _____**	
2	Examinee implements EPIP-TMI-.02 and performs section 1.0 of Exhibit 1.	The examinee declares the event and identifies himself as the ED. (Examinee may indicate to the examiner that they would make the announcement.)	
3	Examinee obtains an Emergency Report Form (ERF) and begins to fill it out. **NOTE: If LOTUS Notes is available, the examinee may use the LOTUS Notes notification program to develop required forms.**	Examinee enters correct information in the ERF. **CUE: If requested, role play as necessary and provide the following information:** **There is NO abnormal radiation release (provided by the Radiological Assessment Coordinator).** **There are no restrictions on personnel movement for Mustering and Evacuation (provided by Security Manager).**	
*4	Direct the ECC Communicator to perform the following: • Initiate CALL OUT and NOTIFICATION using Page 1 of the ERF. • Initiate CONTACT via an ECC Communicator using Page 2 of the ERF.	Direct the ECC Communicator to perform the following: • Initiate CALL OUT and NOTIFICATION using Page 1 of the ERF. • Initiate CONTACT via an ECC Communicator using Page 2 of the ERF. **NOTE: This notification must be made within 15 minutes from the time of classification noted in Step 2.** **Time of Notification: _____**	

#	STEP	STANDARD	S/U
*5	Develop a PAR and personally notify the STATE EOC using either of the three methods identified in Exhibit 8A.	PAR is to SHELTER to 10 miles. PAR must be personally delivered to the STATE within 15 minutes of event classification using either of the three methods identified in Exhibit 8A. **CUE: Role play as necessary as STATE EOC representative. Provide name when answering as state representative.** **NOTE: This notification must be made within 15 minutes from the time of classification noted in Step 2.** **Providing Basis for PAR is NOT required.** **Time of Notification: _____**	

END TASK

JPM CHANGE HISTORY PAGE

REVISION	DATE	REFERENCE TITLE	DESCRIPTION (Include AI # if Appropriate)
0	5/30/2001	NA	Initial issue.