

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

Admin-130

**Perform Manual RCS Leakage Calculation and TS
Determination**

(SRO Only)

CANDIDATE

EXAMINER

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

Task:

Perform Manual RCS Leakage Calculation and TS Determination

Alternate Path:

N/A

Facility JPM #:

CRO-43

K/A Rating(s):

System: Gen
K/A: 2.1.7
Rating: 4.4/4.7

Task Standard:

RCS Leakage is calculated per the attached key.
TS 3.4.13 Condition A entered.

Preferred Evaluation Location:

Simulator _____ In-Plant _____ Classroom X

Preferred Evaluation Method:

Perform X Simulate _____

References:

PT/O/A/0600/001A (Loss Of Computer)
PT/1/A/0600/010 (Reactor Coolant Leakage)
TS 3.4.13 (RCS Operational LEAKAGE)

Validation Time: 18 minutes

Time Critical: NO

Candidate: _____
NAME

Time Start: _____
Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time _____

Examiner: _____ / _____
NAME SIGNATURE DATE

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS

NONE

Tools/Equipment/Procedures Needed:

PT/1/A/0600/010 (Reactor Coolant Leakage) Encl. 13.3 (Manual RCS Leakage Calculation Data Sheet)
Technical Specifications

READ TO OPERATOR

DIRECTION TO TRAINEE

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS

Oconee Unit 1 computer repairs are expected to be extended through turnover for hardware replacement. The Loss of Computer procedure PT/O/A/0600/001A, Loss of Computer, is in progress; however an RCS Leakage Calculation has not been performed during this shift.

INITIATING CUES

The OSM directs you to perform a manual RCS leakage calculation per PT/1A/0600/010 (Reactor Coolant Leakage) Encl. 13.3 (Manual RCS Leakage Calculation Data Sheet) using the data collected below.

Evaluate leakage and determine if any Tech Spec Conditions that apply.

Assume all leakage is unidentified but is NOT Pressure Boundary leakage

Manual RCS Leakage Data

Parameter	Initial	Final
Time	0015	0115
Pzr level	219.0 inches	219.5 inches
Tave Indication	579.0°F	579.1°F
Quench Tank Level	86.5 inches	86.5 inches
LDST Level	76.7 inches	74.0 inches
Power Range NI	100.0%	100.1%
RCS NR Pressure	2150 psig	2150 psig
Group 7 Control Rod Position	92.7%	92.7%

START TIME: _____

<u>STEP 1:</u> Step 2.1 Record Initial Data in "Table #1".						____ Sat ____ Unsat
Value	Initial Data	Minus	Final Data	Equals	Change	
PZR Level	219.0 inches	-		=		
RCS Temp	579.0°F	-		=		
QT Level	86.5 inches	-		=		
LDST Level	76.7 inches	-		=		
Rx Power	100.0%	-		=		
RCS Press	2150 psig	-		=		
CR Pos	92.7%	-		=		
<u>STANDARD:</u> Candidate enters initial set of data into "Table #1" of Enclosure 13.3 (Manual Leakage Calculation Data Sheet) from the initiating cue. <u>COMMENTS</u>						
<u>STEP 2:</u> Step 2.2 Record time Initial Data recorded: _____ <u>STANDARD:</u> Candidate enters 0015 (from initiating cue) <u>COMMENTS</u>						____ Sat ____ Unsat

STEP 3: Step 2.3 After 1 hour, record Final Data in "Table #1".						____ Sat ____ Unsat
Value	Initial Data	Minus	Final Data	Equal	Change	
PZR Level	219.0 inches	-	219.5 inches	=		
RCS Temp	579.0°F	-	579.1°F	=		
QT Level	86.5 inches	-	86.5 inches	=		
LDST Level	76.7 inches	-	74.0 inches	=		
Rx Power	100.0%	-	100.1%	=		
RCS Press	2150 psig	-	2150 psig	=		
CR Pos	92.7%	-	92.7%	=		
STANDARD: Candidate enters final set of data into "Table #1" of Enclosure 13.3 (Manual Leakage Calculation Data Sheet) (from initiating cue) COMMENTS						
STEP 4: Step 2.4 Record time Final Data recorded: _____ STANDARD: Candidate enters 0115 COMMENTS						____ Sat ____ Unsat
STEP 5: Step 2.5 Record time elapsed time: _____ minutes STANDARD: Candidate enters 60 minutes COMMENTS						CRITICAL STEP ____ Sat ____ Unsat

STEP 6: Step 2.6 Calculate and record "Change" values in "Table # 1"..						CRITICAL STEP ____ Sat ____ Unsat
Value	Initial Data	Minus	Final Data	Equal	Change	
PZR Level	219.0 inches	-	219.5 inches	=	-.5 inches	
RCS Temp	579.0°F	-	579.1°F	=	-.1°F	
QT Level	86.5 inches	-	86.5 inches	=	0 inches	
LDST Level	76.7 inches	-	74.0 inches	=	+2.7 inches	
Rx Power	100.0%	-	100.1%	=	-.1%	
RCS Press	2150 psig	-	2150 psig	=	0 psig	
CR Pos	92.7%	-	92.7%	=	0 %	
STANDARD: Candidate calculates the change in data and fills in Table 1 change column. COMMENTS						
STEP:7 Step 2.7 Calculate Corrected Pzr Level Change: STANDARD: $-0.5 \text{ inches} - (6.831 \text{ inches}/^{\circ}\text{F} \times -.1^{\circ}\text{F}) = \mathbf{+.1831 \text{ inches}}$ (+.18 to +.2) COMMENTS						CRITICAL STEP ____ Sat ____ Unsat
STEP:8 Step 2.8 Convert Corrected Pzr Level Change to gallons STANDARD: $+.1831 \text{ inches} \times 14.364 \text{ gallons / inch} = \mathbf{+2.63 \text{ gallons}}$ (+.18 to +.2) (2.585 to 2.873) COMMENTS						CRITICAL STEP ____ Sat ____ Unsat

<p><u>STEP</u>:9</p> <p><u>STANDARD</u>:</p> <p><u>COMMENTS</u></p>	<p>Step 2.9</p> <p>Convert QT Level Change to gallons:</p> <p>No change</p>	<p>CRITICAL STEP</p> <p>____ Sat</p> <p>____ Unsat</p>
<p><u>STEP</u>:10</p> <p><u>STANDARD</u>:</p> <p><u>COMMENTS</u></p>	<p>Step 2.10</p> <p>Convert LDST Level Change to gallons</p> <p>+2.7 inches X 30.956 gallons / inch = +83.5812 gallons (+83.5 to +83.6)</p>	<p>CRITICAL STEP</p> <p>____ Sat</p> <p>____ Unsat</p>
<p><u>STEP</u>:11</p> <p><u>STANDARD</u>:</p> <p><u>COMMENTS</u></p>	<p>Step 2.11</p> <p>Calculate Total Volume Change</p> <p>2.63 gallons + 0 gallons + 83.5812 gallons = 86.2112 gallons (2.585 to 2.873) (+83.5 to +83.6) (86.08 to 86.47)</p>	<p>CRITICAL STEP</p> <p>____ Sat</p> <p>____ Unsat</p>
<p><u>STEP</u>:12</p> <p><u>STANDARD</u>:</p> <p><u>COMMENTS</u></p>	<p>Step 2.12</p> <p>Calculate "RCS Unidentified Leakage Rate"</p> <p>86.2112 gallons / 60 minutes = 1.437 gpm (86.08 to 86.47) (1.434 to 1.441)</p>	<p>CRITICAL STEP</p> <p>____ Sat</p> <p>____ Unsat</p>

<u>STEP</u> :13	Refer to TS 3.4.13 RCS Operational LEAKAGE	CRITICAL STEP
<u>STANDARD</u> :	Determine leakage exceeds 1 gpm unidentified and TS 3.4.13 Condition A applies. Reduce LEAKAGE to within limits with a completion time of 4 hours.	____ Sat
<u>COMMENTS</u>		____ Unsat
END TASK		

STOP TIME: _____

CRITICAL STEP EXPLANATIONS

STEP #	Explanation
5	Necessary data calculation to properly determine manual RCS leakage rate.
6	Necessary data calculation to properly determine manual RCS leakage rate.
7	Necessary data calculation to properly determine manual RCS leakage rate.
8	Necessary data calculation to properly determine manual RCS leakage rate.
9	Necessary data calculation to properly determine manual RCS leakage rate.
10	Necessary data calculation to properly determine manual RCS leakage rate.
11	Necessary data calculation to properly determine manual RCS leakage rate.
12	Necessary data calculation to properly determine manual RCS leakage rate.
13	Necessary to refer to correct TS and conclude 1 gpm unidentified is exceeded.

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS

Oconee Unit 1 computer repairs are expected to be extended through turnover for hardware replacement. The Loss of Computer procedure PT/O/A/0600/001A, Loss of Computer, is in progress; however an RCS Leakage Calculation has not been performed during this shift.

INITIATING CUES

The OSM directs you to perform a manual RCS leakage calculation per PT/1A/0600/010 (Reactor Coolant Leakage) Encl. 13.3 (Manual RCS Leakage Calculation Data Sheet) using the data collected below.

Evaluate leakage and determine if any Tech Spec Conditions that apply.

Assume all leakage is unidentified but is NOT Pressure Boundary leakage

Manual RCS Leakage Data

Parameter	Initial	Final
Time	0015	0115
Pzr level	219.0 inches	219.5 inches
Tave Indication	579.0°F	579.1°F
Quench Tank Level	86.5 inches	86.5 inches
LDST Level	76.7 inches	74.0 inches
Power Range NI	100.0%	100.1%
RCS NR Pressure	2150 psig	2150 psig
Group 7 Control Rod Position	92.7%	92.7%

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

Admin-131

**Perform Manual RCS Leakage Calculation
(RO Only)**

CANDIDATE

EXAMINER

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

Task:

Perform Manual RCS Leakage Calculation

Alternate Path:

N/A

Facility JPM #:

CRO-43

K/A Rating(s):

System: Gen
K/A: 2.1.7
Rating: 4.4/4.7

Task Standard:

RCS Leakage is calculated per the attached key.

Preferred Evaluation Location:

Simulator _____ In-Plant _____ Classroom X

Preferred Evaluation Method:

Perform X Simulate _____

References:

PT/O/A/0600/001A (Loss Of Computer)
PT/1/A/0600/010 (Reactor Coolant Leakage)

Validation Time: 18 minutes

Time Critical: NO

Candidate: _____
NAME

Time Start: _____
Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time _____

Examiner: _____
NAME

SIGNATURE / DATE

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS

NONE

Tools/Equipment/Procedures Needed

PT/1/A/0600/010 (Reactor Coolant Leakage) Encl. 13.3 (Manual RCS Leakage Calculation Data Sheet)

READ TO OPERATOR

DIRECTION TO TRAINEE

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS

Oconee Unit 1 computer repairs are expected to be extended through turnover for hardware replacement. The Loss of Computer procedure PT/O/A/0600/001A, Loss of Computer, is in progress, however an RCS Leakage Calculation has not been performed during this shift.

INITIATING CUES

The Control Room SRO directs you to perform a manual RCS leakage calculation per PT/1A/0600/010 (Reactor Coolant Leakage) Encl. 13.3 (Manual RCS Leakage Calculation Data Sheet) using the data collected below.

Manual RCS Leakage Data

Parameter	Initial	Final
Time	0015	0115
Pzr level	219.0 inches	219.5 inches
Tave Indication	579.0°F	579.1°F
Quench Tank Level	86.5 inches	86.5 inches
LDST Level	76.7 inches	74.0 inches
Power Range NI	100.0%	100.1%
RCS NR Pressure	2150 psig	2150 psig
Group 7 Control Rod Position	92.7%	92.7%

START TIME: _____

STEP 1: Step 2.1 Record Initial Data in "Table #1".						____ Sat ____ Unsat
Value	Initial Data	Minus	Final Data	Equals	Change	
PZR Level	219.0 inches	-		=		
RCS Temp	579.0°F	-		=		
QT Level	86.5 inches	-		=		
LDST Level	76.7 inches	-		=		
Rx Power	100.0%	-		=		
RCS Press	2150 psig	-		=		
CR Pos	92.7%	-		=		
STANDARD: Student enters initial set of data into "Table #1" of Enclosure 13.3 (Manual Leakage Calculation Data Sheet) from the initiating cue. COMMENTS						
STEP 2: Step 2.2 Record time Initial Data recorded: _____ STANDARD: Student enters 0015 (from initiating cue) COMMENTS						____ Sat ____ Unsat

STEP 3: Step 2.3 After 1 hour, record Final Data in "Table #1".						____ Sat ____ Unsat
Value	Initial Data	Minus	Final Data	Equal	Change	
PZR Level	219.0 inches	-	219.5 inches	=		
RCS Temp	579.0°F	-	579.1°F	=		
QT Level	86.5 inches	-	86.5 inches	=		
LDST Level	76.7 inches	-	74.0 inches	=		
Rx Power	100.0%	-	100.1%	=		
RCS Press	2150 psig	-	2150 psig	=		
CR Pos	92.7%	-	92.7%	=		
STANDARD: Student enters final set of data into "Table #1" of Enclosure 13.3 (Manual Leakage Calculation Data Sheet) (from initiating cue) COMMENTS						
STEP 4: Step 2.4 Record time Final Data recorded: _____ STANDARD: Student enters 0115 COMMENTS						____ Sat ____ Unsat
STEP 5: Step 2.5 Record time elapsed time: _____ minutes STANDARD: Student enters 60 minutes COMMENTS						CRITICAL STEP ____ Sat ____ Unsat

<u>STEP 6:</u> Step 2.6 Calculate and record "Change" values in "Table # 1"..						CRITICAL STEP ____ Sat ____ Unsat
Value	Initial Data	Minus	Final Data	Equal	Change	
PZR Level	219.0 inches	-	219.5 inches	=	-.5 inches	
RCS Temp	579.0°F	-	579.1°F	=	-.1°F	
QT Level	86.5 inches	-	86.5 inches	=	0 inches	
LDST Level	76.7 inches	-	74.0 inches	=	+2.7 inches	
Rx Power	100.0%	-	100.1%	=	-.1%	
RCS Press	2150 psig	-	2150 psig	=	0 psig	
CR Pos	92.7%	-	92.7%	=	0 %	
<u>STANDARD:</u> Student calculates the change in data and fills in Table 1 change column. <u>COMMENTS</u>						
<u>STEP :7</u> Step 2.7 Calculate Corrected Pzr Level Change:						CRITICAL STEP ____ Sat ____ Unsat
<u>STANDARD:</u> -0.5 inches – (6.831 inches/°F X -.1°F) = +.1831 inches (+.18 to +.2)						
<u>COMMENTS</u>						
<u>STEP :8</u> Step 2.8 Convert Corrected Pzr Level Change to gallons						CRITICAL STEP ____ Sat ____ Unsat
<u>STANDARD:</u> +.1831 inches X 14.364 gallons / inch = +2.63 gallons (+.18 to +.2) (2.585 to 2.873)						
<u>COMMENTS</u>						

<u>STEP</u> :9	Step 2.9 Convert QT Level Change to gallons:	CRITICAL STEP
<u>STANDARD</u> :	No change	____ Sat
<u>COMMENTS</u>		____ Unsat
<u>STEP</u> :10	Step 2.10 Convert LDST Level Change to gallons	CRITICAL STEP
<u>STANDARD</u> :	+2.7 inches X 30.956 gallons / inch = +83.5812 gallons (+83.5 to +83.6)	____ Sat
<u>COMMENTS</u>		____ Unsat
<u>STEP</u> :11	Step 2.11 Calculate Total Volume Change	CRITICAL STEP
<u>STANDARD</u> :	2.63 gallons + 0 gallons + 83.5812 gallons = 86.2112 gallons (2.585 to 2.873) (+83.5 to +83.6) (86.08 to 86.47)	____ Sat
<u>COMMENTS</u>		____ Unsat
<u>STEP</u> :12	Step 2.12 Calculate "RCS Unidentified Leakage Rate"	CRITICAL STEP
<u>STANDARD</u> :	86.2112 gallons / 60 minutes = 1.437 gpm (86.08 to 86.47) (1.434 to 1.441)	____ Sat
<u>COMMENTS</u>		____ Unsat
END TASK		

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
5	Necessary data calculation to properly determine manual RCS leakage rate.
6	Necessary data calculation to properly determine manual RCS leakage rate.
7	Necessary data calculation to properly determine manual RCS leakage rate.
8	Necessary data calculation to properly determine manual RCS leakage rate.
9	Necessary data calculation to properly determine manual RCS leakage rate.
10	Necessary data calculation to properly determine manual RCS leakage rate.
11	Necessary data calculation to properly determine manual RCS leakage rate.
12	Necessary data calculation to properly determine manual RCS leakage rate.

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS

Oconee Unit 1 computer repairs are expected to be extended through turnover for hardware replacement. The Loss of Computer procedure PT/O/A/0600/001A, Loss of Computer, is in progress, however an RCS Leakage Calculation has not been performed during this shift.

INITIATING CUES

The Control Room SRO directs you to perform a manual RCS leakage calculation per PT/1A/0600/010 (Reactor Coolant Leakage) Encl. 13.3 (Manual RCS Leakage Calculation Data Sheet) using the data collected below.

Manual RCS Leakage Data

Parameter	Initial	Final
Time	0015	0115
Pzr level	219.0 inches	219.5 inches
Tave Indication	579.0°F	579.1°F
Quench Tank Level	86.5 inches	86.5 inches
LDST Level	76.7 inches	74.0 inches
Power Range NI	100.0%	100.1%
RCS NR Pressure	2150 psig	2150 psig
Group 7 Control Rod Position	92.7%	92.7%

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

Admin-140

**CALCULATE AN ESTIMATED CRITICAL ROD
POSITION**

CANDIDATE

EXAMINER

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Calculate an Estimated Critical Rod Position

Alternate Path:

No

Facility JPM #:

CRO-037

K/A Rating(s):

System: GEN
K/A: 2.1.19
Rating: 3.9/3.8

Task Standard:

ECP calculation for 1200 on 06/13/13 is Group 6 @ 58% \pm 5% withdrawn.

Preferred Evaluation Location:

Simulator X In-Plant

Preferred Evaluation Method:

Perform X Simulate

References:

PT/1/A/1103/15 (Reactivity Balance Procedure), Encl. 13.4 (Computerized ECP Calculation)
PT/0/A/1103/020 (Power Maneuvering Predictions)
Rho Calc computer program

Validation Time: 17 minutes

Time Critical: NO

Candidate: _____

NAME

Time Start: _____

Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time: _____

Examiner: _____

NAME

SIGNATURE

DATE

=====

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS:

None

Tools/Equipment/Procedures Needed:

PT/1/A/1103/15 (Reactivity Balance Procedure), Encl. 13.4 (Computerized ECP Calculation)

Printout of ECP HELP file

Computer that is NOT connected to LAN

Rho Calc program running from DVD

READ TO OPERATOR

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

Unit 1 operated from initial new cycle startup to 6/12/13 at 100% power

A Main Turbine trip resulted in a reactor trip at 1301 on 6/12/13

EFPD = 110

PRESENT CONDITIONS:

Date/Time = 6/13/13 at 0300

The cause of the trip is understood and repaired

RCS Boron = 1337

RCS Temperature = 532°F.

Group 8 positioned at 35% withdrawn

INITIATING CUES:

The Control Room SRO directs you to calculate an original Estimated Critical Rod Position for 1200 today (06/13/13) by performing PT/1/A/1103/015 (Reactivity Balance Procedure) Encl. 13.4 (Computerized Estimated Critical Rod Position Calculation) through step 2.7.

SIMULATOR OPERATOR INSTRUCTIONS

NONE

START TIME: _____

<p><u>STEP 1:</u> Step 2.1 This enclosure must be performed twice – the second is the separate verification. Circle whether this is the original or the verification.</p> <p><u>STANDARD:</u> Candidate should check “original”.</p> <p>Continue to Step 2.2</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> Step 2.2 Ensure that the OAC B-10 program has been updated per Reference 2.10 (N/A for original calculation).</p> <p><u>STANDARD:</u> Candidate should N/A this step.</p> <p>Continue to Step 2.3</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<div data-bbox="142 1052 1219 1121" style="border: 1px solid black; padding: 5px;"> <p>NOTE: The intent is to verify that the measured RCS % design flow is greater than that required. RPS flows can be expected to deviate from baseline.</p> </div> <p><u>STEP 3:</u> Step 2.3 IF returning from a forced outage, perform an RCS flow check using POWCALC.XLS and attach results to this enclosure. (N/A for original calculation)</p> <p><u>STANDARD:</u> Candidate should N/A this step.</p> <p>Continue to Step 2.4</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 4:</u> Step 2.4 If returning from a forced outage, verify the measured % Design Flow is <116.4% design flow (Reference 2.7) using the results from POWERCALC.XLS. (N/A for original calculation)</p> <p><u>STANDARD:</u> Candidate should N/A this step.</p> <p><u>COMMENTS:</u> Continue to Step 2.5</p>	<p>___ SAT</p> <p>___ UNSAT</p>
<div data-bbox="142 625 1219 693" style="border: 1px solid black; padding: 5px;"> <p>CAUTION: IF the power history information from the last equilibrium Xe/Sm condition is NOT input into the code, significant error may result.</p> </div> <div data-bbox="142 735 1219 777" style="border: 1px solid black; padding: 5px;"> <p>NOTE: If conducting an initial cycle startup the power history is 0% FP.</p> </div> <p><u>STEP 5:</u> Step 2.5 If returning from a forced outage:</p> <ul style="list-style-type: none"> • Obtain the power history back to the last time of Xenon equilibrium to perform the Xenon calculation from a source such as PI Server, OAC, RO Log, etc. • Attach actual power history to this enclosure. <p><u>STANDARD:</u> Power history is provided with the Candidates' Cue sheet.</p> <p><i>CUE: Indicate to the candidate that the provided power history is an acceptable source of the power history for this JPM.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 6:</u> Step 2.6 Open RhoCalc.</p> <p><u>STANDARD:</u> Candidate locates the RhoCalc icon on the PC and opens the program.</p> <p><i>Note: For the purposes of this JPM the RhoCalc program will already be open on the computer.</i></p> <p>Continue to Step 2.7</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

Cue: If anytime during this JPM the candidate attempts to open the HELP file on the top menu, provide the candidate with the hard copy of the HELP file that is attached. Selecting the HELP file from the menu will result in the program closing and all data entered will be lost since it is being run from a disc rather than the DAE.

STEP 7: Step 2.7.1
 INPUT appropriate data for the estimated critical rod position calculation,

STANDARD: Under the "Input Information" tab, candidate inserts the data given to him into the program.

Cue: When the candidate begins to input data an error message that reads "Error connecting to PI server ons0pi PI error" will be received. Inform the candidate to select OK and continue. The message is a result of not being connected to the LAN but will NOT have an impact on the ECP.

- Name – Candidates name
- *Select Unit 1
- *RCS Temperature - 532°F
- *Current Boron Concentration – 1338 ppm
- *EFPD - 110
- *Group 8 position – 35% withdrawn
- "Fully Conditioned" fuel status
- 4 RCPs in operation
- NO inoperable rods

COMMENTS:

***CRITICAL STEP**

___ SAT

___ UNSAT

<p>STEP 8: Step 2.7.1 (cont.) INPUT appropriate data for the estimated critical rod position calculation,</p> <p>STANDARD: Under the “Power History” tab, candidate inserts the power history given to him into the program.</p> <ul style="list-style-type: none"> Power History: (Standard is met as long as power history entered will result in projection going out to at least 6/14 at 1300 but it is acceptable if the ECP forecasts beyond that point) <ul style="list-style-type: none"> 6/12 @ 1300 - 100% 6/12 @ 1301 – 0% *6/13 @ 1200 – 0% <p>*Examiner Note: Entering any final time/date \geq the above time is acceptable.</p> <p>Cue: <i>If candidate attempts to open the HELP file on the top menu, provide the candidate with the hard copy of the HELP file that is attached. Selecting the HELP file from the menu will result in the program closing and all data entered will be lost since it is being run from a disc rather than the DAE.</i></p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p>STEP 9: Step 2.7.2 Select “Calculate ECP”.</p> <p>STANDARD: Candidate selects the “Calculations” tab and then selects the “Calculate ECP” button</p> <p>NOTE/CUE: <i>The three windows related to Boron Correction factors will all read “0”. This is because the program is not connected to the Pi server to obtain RCS boron information from the unit. It will NOT have an impact on the ECP.</i></p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 10:</u> Step 2.7.3 Print the ECP</p> <p><u>STANDARD:</u> Candidate prints the ECP</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 11:</u> Step 2.7.3 (continued)</p> <p><u>STANDARD:</u> The candidate, using the ECP printed out, finds 1200 on 06/13/13 and determines that the ECP is Group 6 at 58%. The candidate's answer must be $\pm 5\%$ (53% to 63%)</p> <p><u>COMMENTS:</u></p> <p style="text-align: right;">END TASK</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
7	Candidate needs to perform this step for the computer to calculate the ECP
8	Candidate needs to perform this step for the computer to calculate the ECP .
9	Candidate needs to perform this step for the computer to calculate the ECP
11	Candidate needs to perform this step to determine what the critical position is for the time given.

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

Unit 1 operated from initial new cycle startup to 6/12/13 at 100% power

A Main Turbine trip resulted in a reactor trip at 1301 on 6/12/13

EFPD = 110

PRESENT CONDITIONS:

Date/Time = 6/13/13 at 0300

The cause of the trip is understood and repaired

RCS Boron = 1337

RCS Temperature = 532°F.

Group 8 positioned at 35% withdrawn

INITIATING CUES:

The Control Room SRO directs you to calculate an original Estimated Critical Rod Position for 1200 today (06/13/13) by performing PT/1/A/1103/015 (Reactivity Balance Procedure) Encl. 13.4 (Computerized Estimated Critical Rod Position Calculation) through step 2.7.

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

Admin-240

Perform SG Downcomer Temperature Surveillance

CANDIDATE

EXAMINER

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Perform SG Downcomer Temperature Surveillance

Alternate Path:

N/A

Facility JPM #:

Admin-237

K/A Rating(s):

System: Gen
K/A: 2.2.12
Rating: 3.7/4.1

Task Standard:

Perform SG Downcomer Temperature Surveillance by procedure for the 1A (ONLY) SG and determine that the surveillance requirement is NOT met for either of the specified computer points.

Preferred Evaluation Location:

Simulator _____ In-Plant _____ Classroom X

Preferred Evaluation Method:

Perform X Simulate _____

References:

OP/1/A/1105/014 (Control Room Instrumentation Operation And Information) Encl 4.1 (Mode 1 & 2)
OP/1/A/1105/014 (Control Room Instrumentation Operation And Information) Encl. 4.19 (Channel Check Of OTSG Downcomer Temperatures)

Validation Time: 18 minutes

Time Critical: NO

Candidate: _____

NAME

Time Start: _____

Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time: _____

Examiner: _____

NAME

SIGNATURE

DATE

=====

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS

NONE

Tools/Equipment/Procedures Needed:

OP/1/A/1105/014 (Control Room Instrumentation Operation And Information)
OAC Screen capture image for SG information

READ TO OPERATOR

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

Reactor power = 75%

OP/1/A/1105/014 (Control Room Instrumentation Operation And Information) Encl. 4.1 (Mode 1 & 2) in progress.

INITIATING CUES:

CR SRO directs you to perform OP/1/A/1105/014 (Control Room Instrumentation Operation And Information) Encl. 4.1 (Mode 1 & 2) on page 6 of 15 component check for the 1A SG Downcomer Temperature.

START TIME: _____

<p><u>STEP 1:</u> Enclosure 4.1 (page 6 of 15)</p> <p>Verify All SG Downcomer Temperature computer points agree within 3°F of each other.</p> <p>IF All SG Downcomer Temperatures DO NOT agree within 3°F of each other, then perform Enclosure "Channel Check Of OTSG Downcomer Temperatures".</p> <p>O1E2008 – 528.87°F O1E2009 – 538.97°F O1E2012 – 532.78°F O1E2013 – 533.65°F</p> <p><u>STANDARD:</u> Determine that the above OAC points do NOT agree within 3°F of each other, and perform Enclosure 4.19 "Channel Check of OTSG Downcomer Temperatures".</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> Step 3.1 (Enclosure 4.19)</p> <p>Determine saturation temperature for 1A OTSG based on power level and 1A OTSG outlet pressure as follows:</p> <p>Step 3.1.1</p> <p>Determine 1A OTSG outlet pressure using any one of the following computer points:</p> <ul style="list-style-type: none"> • O1E2281 – 888.5 psig • O1E2283 – 888.5 psig • O1E2031 – 888.5 psig • O1E2032 – 888.5 psig <p><u>STANDARD:</u> Using the OAC determine that 1A OTSG pressure is 888.5.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 3:</u> Step 3.1.2 Using table in Section 4, determine the 1A OTSG saturation temperature based on power level and 1A OTSG Outlet Pressure obtained in step 3.1.1.</p> <p>_____ 1A OTSG saturation temperature</p> <p><u>STANDARD:</u> Determine that 1A OTSG saturation temperature is $\approx 533.9^{\circ}\text{F}$ by using the table in section 4.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 4:</u> Step 3.1.3 Compare O1E2008 SG Lower Downcomer Temperature Loop A to the 1A OTSG saturation temperature determined in step 3.1.2:</p> <p>Step 3.1.4 IF O1E2008 SG Lower Downcomer Temperature Loop A is NOT within $\pm 4.9^{\circ}\text{F}$ of the 1A OTSG saturation temperature, then enter Condition A of SLC 16.7.5 for OTSG overfill protection system inoperable.</p> <p><u>STANDARD:</u> Determine that O1E2008 SG Lower Downcomer Temperature Loop A (528.87°F) is NOT within $\pm 4.9^{\circ}\text{F}$ of the 1A OTSG saturation temperature (533.9°F), and entry Condition A of SLC 16.7.5 for OTSG overfill protection system inoperable is required.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 5:</u> Step 3.1.5 Compare O1E2009 SG Lower Downcomer Temperature Loop A to the 1A OTSG saturation temperature determined in step 3.1.2:</p> <p>Step 3.1.6 IF O1E2009 SG Lower Downcomer Temperature Loop A is NOT within ± 4.9 °F of the 1A OTSG saturation temperature, then enter Condition A of SLC 16.7.5 for OTSG overfill protection system inoperable.</p> <p><u>STANDARD:</u> Determine that O1E2009 SG Lower Downcomer Temperature Loop A (538.97) is NOT within ± 4.9 °F of the 1A OTSG saturation temperature (533.9°), and entry Condition A of SLC 16.7.5 for OTSG overfill protection system inoperable is required.</p> <p><i>Cue: Inform the candidate that another operator will complete this procedure.</i></p> <p><u>COMMENTS:</u></p> <p>END TASK</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
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STOP TIME: _____

CRITICAL STEP EXPLANATIONS:

STEP #	Explanation
1	Step is required to complete the surveillance.
3	Step is required to complete the surveillance.
4	Determining that the computer points in both Step 4 and Step 5 are out of the allowable band is critical to ensure that SLC 16.7.5 Condition A is not exited prior to BOTH computer points being repaired.
5	Determining that the computer points in both Step 4 and Step 5 are out of the allowable band is critical to ensure that SLC 16.7.5 Condition A is not exited prior to BOTH computer points being repaired.

**CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)**

INITIAL CONDITIONS:

Reactor power = 75%

OP/1/A/1105/014 (Control Room Instrumentation Operation And Information) Encl. 4.1 (Mode 1 & 2) in progress.

INITIATING CUES:

CR SRO directs you to perform OP/1/A/1105/014 (Control Room Instrumentation Operation And Information) Encl. 4.1 (Mode 1 & 2) on page 6 of 15 component check for the 1A SG Downcomer Temperature.

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

ADMIN-241

**Complete a Surveillance Evaluation
(SRO ONLY)**

CANDIDATE

EXAMINER

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

Task:

Complete PT/1/A/0600/001 (Periodic Instrument Surveillance) Encl. 13.12 (Surveillance Evaluation)

Alternate Path:

N/A

Facility JPM #:

New

K/A Rating(s):

System: Gen
K/A: 2.2.12
Rating: 3.7/4.1

Task Standard:

Complete PT/1/A/0600/001 (Periodic Instrument Surveillance) Encl. 13.12 (Surveillance Evaluation)

Preferred Evaluation Location:

Simulator _____ In-Plant _____ Classroom X

Preferred Evaluation Method:

Perform X Simulate _____

References:

PT/1/A/0600/001 (Periodic Instrument Surveillance) Encl. 13.2 (Mode 3) page 25 of 26
PT/1/A/0600/001 (Periodic Instrument Surveillance) Encl. 13.9 (RCP Power Supply Verification)
PT/1/A/0600/001 (Periodic Instrument Surveillance) Encl. 13.12 (Surveillance Evaluation)

Validation Time: 20 min.

Time Critical: No

Candidate: _____

NAME

Time Start: _____

Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time: _____

Examiner: _____

NAME

SIGNATURE

DATE

Comments

SIMULATOR OPERATOR INSTRUCTIONS

NONE

Tools/Equipment/Procedures Needed:

PT/1/A/0600/001 (Periodic Instrument Surveillance) Encl. 13.2 (Mode 3) page 25 of 26

PT/1/A/0600/001 (Periodic Instrument Surveillance) Encl. 13.9 (RCP Power Supply Verification)

PT/1/A/0600/001 (Periodic Instrument Surveillance) Encl. 13.12 (Surveillance Evaluation) Surveillance Frequency List

READ TO OPERATOR

DIRECTIONS TO STUDENT

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

Time/Date = 0830 on Saturday, June 8.

RCS Temperature = 298 °F.

1/0 RCP operation in progress (1A1 RCP in operation).

PT/1/A/0600/001 (Periodic Instrument Surveillance) Encl. 13.2 (Mode 3) in progress.

SR 3.4.5.2 on page 25 of 26 of PT/1/A/0600/001 (Periodic Instrument Surveillance) Encl. 13.2 (Mode 3) is being performed.

Step 2.2 of Encl. 13.9 (RCP Power Supply Verification) is determined to NOT be satisfied because neither the 1B1 nor the 1B2 RCP has power available.

INITIATING CUE:

Based on the above conditions, complete PT/1/A/0600/001 (Periodic Instrument Surveillance) Encl. 13.12 (Surveillance Evaluation)

START TIME: _____

<p><u>STEP 1:</u> Surveillance Description:</p> <p><u>STANDARD:</u> Documents that this is a Tech Spec required verification of correct RCP breaker alignment of power available to the required pump this is not in operation</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> Applicable TS(s)/SLC(s)/Site Directive(s), etc.:</p> <p><u>STANDARD:</u> Determines that Tech Spec 3.4.5 (RCS Loops Mode 3) is applicable and documents in Step 2</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 3:</u> Description of discrepancy/deficiency:</p> <p><u>STANDARD:</u> Documents that the required RCP Breaker alignment does not exist.</p> <p>NOTE: TS 3.4.5 requires that either the 1B1 or 1B2 have power available</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 4:</u> Is surveillance applicable for present plant conditions?</p> <p><u>STANDARD:</u> Marks "yes"</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 5:</u> If surveillance is applicable, what is the latest due date for surveillance OR applicable LCO?</p> <p><u>STANDARD:</u> Documents that the latest due date is 0830 on Tuesday, June 11 (72 hours from discovery) per Condition A of TS 3.4.5</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 6:</u> Is applicable TS(s)/SLC(s)/Site Directive(s), etc. satisfied with existing discrepancy/deficiency?</p> <p><u>STANDARD:</u></p> <ul style="list-style-type: none"> • *Marks "no" • Explains in justification that TS 3.4.5 requires both RCS loops be Operable and with no power available to the 1B1 and 1B2 RCP's, the B RCS loop is NOT operable <p><u>COMMENTS:</u></p>	<p>*CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 7:</u> Support personnel/groups contacted (if any) AND information provided:</p> <p><u>STANDARD:</u> Candidate may indicate requesting SPOC assistance to determine why neither of the required RCP breakers are racked in however since there is no indication of mechanical failures it would not be required.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 8:</u> Describe corrective/compensatory actions being taken (procedure change, WR, PIP, etc.), and resolution date for those actions.</p> <p><u>STANDARD:</u></p> <p>*Corrective/Compensatory Action:</p> <p>Candidate should indicate that actions will commence to establish the required breaker alignment. This could be by issuing a Work Request, writing a PIP, or dispatching personnel to determine why the breakers are open and if the breakers could be racked in.</p> <p>Resolution Date:</p> <p>This blank may be left open at this time since the investigation is just beginning however in no case should a date and time that would result in exceeding the 72 hour completion time be entered.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 9:</u> Approval:</p> <p><u>STANDARD:</u> Signs and Dates either of the blanks provided</p> <p><u>COMMENTS:</u></p> <p>END OF TASK</p>	<p>___ SAT</p> <p>___ UNSAT</p>

CRITICAL STEP EXPLANATIONS

STEP #	Explanation
2	Required to determine the applicable Tech Spec
4	Required to determine if this Tech Spec is applicable in Mode 3
5	Incorrect documentation could lead to exceeding allowed time to complete Tech Spec Required Actions.
6	Required to determine if the LCO is met

**CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)**

INITIAL CONDITIONS:

Time/Date = 0830 on Saturday, June 8.

RCS Temperature = 298 °F.

1/0 RCP operation in progress (1A1 RCP in operation).

PT/1/A/0600/001 (Periodic Instrument Surveillance) Encl. 13.2 (Mode 3) in progress.

SR 3.4.5.2 on page 25 of 26 of PT/1/A/0600/001 (Periodic Instrument Surveillance) Encl. 13.2 (Mode 3) is being performed.

Step 2.2 of Encl. 13.9 (RCP Power Supply Verification) is determined to NOT be satisfied because neither the 1B1 nor the 1B2 RCP has power available.

INITIATING CUE:

Based on the above conditions, complete PT/1/A/0600/001 (Periodic Instrument Surveillance) Encl. 13.12 (Surveillance Evaluation)

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

Admin-306

**Calculate the Maximum Permissible Stay Time
Within Emergency Dose Limits (EDL)**

CANDIDATE

EXAMINER

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

Task:

Calculate the Maximum Permissible Stay Time Within the Emergency Dose Limits.

Alternate Path:

N/A

Facility JPM #:

Admin 305

K/A Rating(s):

System: Gen

K/A: 2.3.4

Rating: 3.2/3.7

Task Standard:

Calculate the Maximum Permissible Stay Time Within the Emergency Dose Limits.

Preferred Evaluation Location:

Simulator _____ In-Plant _____ Classroom X

Preferred Evaluation Method:

Perform X Simulate _____

References:

NSD-507 (Radiation Protection)

OMP 1-18 (Implementation Standard During Abnormal And Emergency Events)

Validation Time: 20 min.

Time Critical: No

Candidate: _____

NAME

Time Start: _____

Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time _____

Examiner: _____

NAME

SIGNATURE

DATE

=====

=

COMMENTS

SIMULATOR OPERATOR INSTRUCTIONS

NONE

Tools/Equipment/Procedures Needed:

Calculator
Note tablet

READ TO OPERATOR

DIRECTIONS TO STUDENT

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS

Steam Generator Tube Rupture has occurred on Unit 3

Emergency Dose Limits are in effect

NEO "A" has received 1.26 Rem TEDE this year

The following tasks are required to be performed:

#	TASK	TIME REQUIRED	DOSE RATE
1	Close 3C-573	11 min	6.15 R/hr
2	Open 3FDW-313	6 min	18.25 R/hr
3	Open all Unit 3's ADVs		4.65 R/hr

Note: Assume no dose is received while traveling between tasks.

INITIATING CUE

Refer to the above information. NEO "A" has completed tasks 1 and 2 in the time required.

Determine how long the NEO has to complete task 3 without exceeding his/her Emergency Dose Limits.

START TIME: _____

Examiner Note:

- *Candidate may perform these steps in a different order; however, the calculated stay time must be correct.*
- *EDL is 5 Rem per event (LOCA or SGTR).*
- *Current exposure for the year is not counted toward the Emergency Dose Limits (EDL).*

<p><u>STEP 1:</u> Determine dose received while performing task 1.</p> <p><u>STANDARD:</u> Determine dose received while performing task 1.</p> <p>$6.15 \text{ R/hr} \times 1\text{hr}/60 \text{ min} \times 11 \text{ min} = 1.1275 \text{ R}$ (1.12 to 1.13 R)</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> Determine dose received while performing task 2.</p> <p><u>STANDARD:</u> Determine dose received while performing task 2.</p> <p>$18.25 \text{ R/hr} \times 1\text{hr}/60 \text{ min} \times 6 \text{ min} = 1.825 \text{ R}$ (1.82 to 1.83 R)</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 3:</u> Determine dose remaining from EDLs.</p> <p><u>STANDARD:</u> Determine dose remaining from EDLs.</p> <p>$5\text{R} - 1.1275\text{R} - 1.825\text{R} = 2.0475 \text{ R}$ (2.04 to 2.06 R)</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 4:</u> Determine time available for the NEO to complete task 3 without exceeding EDL.</p> <p><u>STANDARD:</u> Stay time is calculated to be:</p> $\frac{\text{Available Dose}}{\text{Dose Rate}} = \frac{2.0475 \text{ R}}{4.65 \text{ R/hr}} = .44 \text{ hr} \times \frac{60 \text{ min}}{1 \text{ hr}} = \mathbf{26.42 \text{ min}}$ <p style="text-align: right;">(26 to 27 Minutes)</p> <p><u>COMMENTS:</u></p> <p style="text-align: center;">END OF TASK</p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
--	---

STOP TIME: _____

CRITICAL STEP EXPLANATIONS

STEP #	Explanation
1	Required to calculate stay time.
2	Required to calculate stay time.
3	Required to calculate stay time.
4	Required to calculate stay time.

**CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)**

INITIAL CONDITIONS

Steam Generator Tube Rupture has occurred on Unit 3

Emergency Dose Limits are in effect

NEO "A" has received 1.26 Rem TEDE this year

The following tasks are required to be performed:

#	TASK	TIME REQUIRED	DOSE RATE
1	Close 3C-573	11 min	6.15 R/hr
2	Open 3FDW-313	6 min	18.25 R/hr
3	Open all Unit 3's ADVs		4.65 R/hr

Note: Assume no dose is received while traveling between tasks.

INITIATING CUE

Refer to the above information. NEO "A" has completed tasks 1 and 2 in the time required.

Determine how long the NEO has to complete task 3 without exceeding his/her Emergency Dose Limits.

**REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE**

ADMIN-412

**Determine Emergency Classification and complete
the initial Emergency Notification form**

(SRO Only)

CANDIDATE

EXAMINER

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Determine Emergency Classification and complete the initial Emergency Notification form

Alternate Path:

N/A

Facility JPM #:

N/A

K/A Rating(s):

System: Gen
K/A: 2.4.38
Rating: 2.4/4.4

Task Standard:

Appropriate classification is determined and associated Emergency Notification Form is completed with the time critical criteria.

Preferred Evaluation Location:

Simulator _____ In-Plant _____ Classroom X

Preferred Evaluation Method:

Perform X Simulate _____

References:

RP/0/B/1000/001 (Emergency Classification)
RP/0/B/1000/002 (Control Room Emergency Coordinator Procedure)
Nuclear Power Plant Emergency Notification Form 4.1.A.1

Validation Time: 20 min.

Time Critical: Yes

Candidate: _____
NAME

Time Start: _____
Time Finish: _____

Performance Rating: SAT _____ UNSAT _____

Performance Time: _____

Examiner: _____
NAME

SIGNATURE / DATE

=====

Comments

SIMULATOR OPERATOR INSTRUCTIONS

NONE

Tools/Equipment/Procedures Needed:

RP/0/B/1000/001 (Emergency Classification)

RP/0/B/1000/002 (Control Room Emergency Coordinator Procedure)

READ TO OPERATOR

DIRECTIONS TO STUDENT

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

0800 Unit 1 experiences a runback and trip due to a loss of Stator Coolant.

0805 The Operator dispatched to determine if the MS Relief Valves have reseated reports that 1B SG appears to have two MSRVs damaged and still passing steam.

0806 1B SG has been isolated and RCS Temperature stabilized at 520°F CETCs.

0815 Calculations indicate a 1A S/G Tube leak of 240 gpm is occurring.

0816 The 1A S/G is being fed by the 1A MDEFWP and is being used for RCS Temperature control. Feeding the 1B S/G for Tube to Shell Delta Temperature concerns is NOT required at this time.

INITIATING CUE:

Perform the required actions of the Emergency Coordinator:

1. Determine Emergency Classification at Time = 0816
2. Complete appropriate Emergency Notification Form

THIS IS A TIME CRITICAL JPM

Note: Do not use Emergency Coordinator's judgment while classifying the event. When required, other operators will maintain the Emergency Coordinator's Log and perform the duties of the Control Room Offsite Communicator.

START TIME: _____
(Actual time)

<p><u>STEP 1:</u> Classify the Event</p> <p><u>STANDARD:</u> Refer to RP/0/B/1000/01 (Emergency Classification) Enclosure 4.1 (Fission Product Barrier Matrix)</p> <p> Classify as an ALERT due to:</p> <ul style="list-style-type: none"> • RCS Barriers - 4 points due to SGTR \geq160 gpm <p>Time of Classification: _____</p> <p><i>Examiner Note: The criteria for getting 3 points for a SGTL in one S/G and the other S/G faulted is not met because the faulted S/G (1B) has been isolated.</i></p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 2:</u> Commence the Off-Site Notification Form.</p> <p><u>STANDARD:</u> Go to RP/0/B/1000/002 (Control Room Emergency Coordinator Procedure) and initiate procedure by determining symptoms for entry exist and check Step 1.1</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 3:</u> Step 2.1.</p> <p><u>STANDARD:</u> Determine step 2.1 does not apply</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p style="text-align: center;">NOTE: State and County agencies shall be notified within 15 minutes of E-plan declaration, Classification upgrades, and Protective Action Recommendations.</p> <p><u>STEP 4:</u> Step 2.2</p> <p> Declare the appropriate Emergency Classification level. Classification <u> ALERT </u> (UE, ALERT, SAE, GE) Time Declared: _____</p> <p><u>STANDARD:</u> Declare an ALERT due to:</p> <p> 1A SGTR \geq 160 gpm (4 pts.) and the SG with an open path to the environment (1B SG) is NOT being fed by the affected unit nor does it contain a SG Tube Leak</p> <p> <ul style="list-style-type: none"> • Time ALERT Declared documented in Step 1 • (SAT is < Start Time + 15 minutes) </p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 5:</u> Step 2.3 & 2.4</p> <p><u>STANDARD:</u> Determine Steps 2.3 and 2.4 do not apply</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 6:</u> Step 2.5</p> <p> Appoint Control Room Offsite Communicator(s) and perform the following: N/A</p> <p><u>STANDARD:</u> Any name (real or imaginary) is acceptable.</p> <p><i>Note: Initiating Cue indicates these actions will be performed by another operator.</i></p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>

<p><u>STEP 7:</u> Step 2.6</p> <p>IAAT Changing plant conditions require an emergency classification upgrade, THEN Notify Offsite Communicator to complete the in-progress notifications per RP/0/B/1000/15A, (Offsite Communications From The CR) AND Re-initiate a clean copy of this procedure for the upgraded classification and stop this procedure.</p> <p><u>STANDARD:</u> An Upgrade is not expected.</p> <p><u>COMMENTS:</u></p>	<p>___ SAT</p> <p>___ UNSAT</p>
<p><u>STEP 8:</u> Step 2.7</p> <p>Obtain the appropriate Offsite Notification form from the Emergency Plan cart.</p> <p><u>STANDARD:</u> Initial ALERT form # 4.1.A.1 is selected and candidate continues to fill-out form per the Step 2.7 substeps.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>___ SAT</p> <p>___ UNSAT</p>

<p>STEP 9: Step 2.7 (continued)</p> <p>2.7.1. Ensure EAL # as determined by RP/0/B/1000/001 matches Line 4. (4.1.A.1)</p> <p>2.7.2. Line 1 - Mark appropriate box "Drill" or "Actual Event" (DRILL)</p> <p>2.7.3. *Line 1 - Enter Message # (#1)</p> <p>2.7.4. *Line 2 - Mark Initial (INITIAL marked)</p> <p>2.7.5. *Line 6 – ('Is Occurring' marked)</p> <p style="padding-left: 40px;">A. Mark "Is Occurring" if any of the following are true:</p> <ul style="list-style-type: none"> • RIAs 40, 45, or 46 are increasing or in alarm • If containment is breached • Containment pressure > 1 psig <p style="padding-left: 40px;">B. Mark "None" if none of the above is applicable.</p> <p>2.7.6. *Line 7 - If Line 6 Box B or C is marked, mark Box D. Otherwise mark Box A ('D' marked)</p> <p>2.7.7. *Line 8 - Mark "Stable" unless an upgrade or additional PARs are anticipated within an hour.</p> <ul style="list-style-type: none"> • Refer to Enclosure 4.9, (Event Prognosis Definitions) <p>2.7.8. *Line 10 - Military time and date of declaration (Refer to date/time in Step 2.2) (Insert time from STEP 1 and today's date, military time is not critical as long as time is specific and accurate.)</p> <p>2.7.9. Line 11 - If more than one unit affected, mark "All" (Unit 1 marked)</p> <p>2.7.10. Line 12 - Mark affected unit(s) (reference Line 11) AND enter power level of affected unit(s) or time/date of shutdown (Unit 1 - 0% power, Shutdown at 0800 with today's date.)</p> <p>2.7.11. Line 13 - If the OSM has no remarks, write "None" (indicate NONE)</p> <p>2.7.12. If Condition "A" exists ensure following PARs are included Line 5.</p> <p style="padding-left: 40px;">A. Evacuate: Move residents living downstream of the Keowee Hydro Project dams to higher ground</p> <p style="padding-left: 40px;">B. Other: Prohibit traffic flow across bridges identified on your inundation maps until the danger has passed. (Condition A does not exist. No PAR required)</p> <p>STANDARD: Correctly fills out Emergency Notification Form in accordance with Key.</p> <p>COMMENTS:</p>	<p>*CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>
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<p><u>STEP 10:</u> Step 2.7 (Continued)</p> <p>2.7.13. Line 17 - OSM signature, CURRENT Time/Date (MUST SIGN)</p> <p><u>STANDARD:</u> Indicate that OSM signature will be obtained on the completed Emergency Notification Form within 15 minutes of classification time recorded in step 1.</p> <p>STOP TIME #2: Time for Notification _____ (SAT is < Step 1 Time + 15 minutes)</p> <p><u>COMMENTS:</u></p> <p>END OF TASK</p>	<p>CRITICAL STEP</p>
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CRITICAL STEP EXPLANATIONS

STEP #	Explanation
1	The candidate needs to be able to utilize the procedure and determine the conditions meet a Site Area Emergency classification within 15 minutes.
8	The correct form that matches the EAL # is selected.
9	The emergency notification form is filled-out with each line entry identified as 'critical' complete and accurate.
10	This is a time critical step. The Candidate needs to complete the notification form within 15 minutes from the time the EAL was declared. (Declaration time is the time recorded in JPM step 4)

**CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)**

INITIAL CONDITIONS:

- 0800 Unit 1 experiences a runback and trip due to a loss of Stator Coolant.
- 0805 The Operator dispatched to determine if the MS Relief Valves have reseated reports that 1B SG appears to have two MSRVs damaged and still passing steam.
- 0806 1B SG has been isolated and RCS Temperature stabilized at 520°F CETCs.
- 0815 Calculations indicate a 1A S/G Tube leak of 240 gpm is occurring.
- 0816 The 1A S/G is being fed by the 1A MDEFWP and is being used for RCS Temperature control. Feeding the 1B S/G for Tube to Shell Delta Temperature concerns is NOT required at this time.

INITIATING CUE:

Perform the required actions of the Emergency Coordinator:

1. Determine Emergency Classification at Time = 0816
2. Complete appropriate Emergency Notification Form

THIS IS A TIME CRITICAL JPM

Note: Do not use Emergency Coordinator's judgment while classifying the event. When required, other operators will maintain the Emergency Coordinator's Log and perform the duties of the Control Room Offsite Communicator.