Facility:	Turkey Point	Task No:	01041036100
Task Title:	Perform a Manual Leakrate Calculation	JPM No:	R.A.1
K/A Reference:	2.1.7 RO 4.4		
Examinee:		NRC Examiner:	
Facility Evaluator:		Date:	

Method of testing:

Simulated Performance X Actual Performance

Classroom X Simulator Plant

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- Unit 4 is at 100% power, steady state.
- All 4-OSP-041.1, "Reactor Coolant System Leak Rate Calculation" prerequisites have been met.
- ERDADS is not available.
- Combined Charging Pump primary packing leakage is 0.05 gpm
- Combined Charging Pump primary packing leakage as determined by Attachment 4 is 0.05 gpm
- Non-Reactor Coolant Pressure Boundary (RCPB) Leakage as determined by Attachment 6 is 0.0 gpm
- CV-4-2821 and CV-4-2822, Containment Sump Pump Discharge have been restored to normal.
- LC-4-112A VCT Level Controller has been restored to normal.

Task Standard:

- RCS leak rates are calculated using 4-OSP-041.1 Reactor Coolant System Leak Rate Calculation
- Acceptance criteria for 4-OSP-041.1 Reactor Coolant System Leak Rate Calculation is verified **NOT** met

Required Materials:

- 4-OSP-041.1, "Reactor Coolant System Leak Rate Calculation".
- Calculator

General References:

- 4-OSP-041.1, "Reactor Coolant System Leak Rate Calculation"

Initiating Cue:

- You are the Unit 4 RCO on Peak Shift and have been directed to perform an RCS leak rate calculation by completing 4-OSP-041.1, "Reactor Coolant System Leak Rate Calculation" Attachment 3 Leak Rate Calculation Data Sheet (Manual Method).
- The start and stop data for the leakrate calculation are provided to you on the JPM Briefing Sheet.
- After calculating the leak rates, determine any required action.

Time Critical Task: No

Validation Time: 30 minutes

HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!

SIMULATOR SETUP

Reset to IC #
N/A

Denote critical steps with a check mark(T)

Start Time _____

STEP 1 :	Obtain a copy of 4-OSP-041.1, Reactor Coolant System Leak Rate Calculation	___ SAT ___ UNSAT
Standard:	Copy of 4-OSP-041.1, Reactor Coolant System Leak Rate Calculation is obtained.	
Cue	Provide a copy of 4-OSP-041.1, Reactor Coolant System Leak Rate Calculation.	
Comment		

NOTE:	Procedure note Recommended minimum duration for the calculation is four hours. The data provided in the initiating cue is four hours.	
STEP 2 : T	Record Start Data (4-OSP-041.1, step 7.1.2.7.c and Attachment 3 page 1 steps 1-9)	___ SAT ___ UNSAT
Standard:	Examinee records the data under "Start" column on Attachment 3, Page 1.	
Comment		
EXAMINER NOTE:	The start data is provided to the examinee on the JPM briefing sheet.	

STEP 3 : $\bar{T}$	Record Stop Data (4-OSP-041.1, step 7.1.2.10.c and Attachment 3 page 1 steps 1-9)	___ SAT ___ UNSAT
Standard:	Examinee records the data under "Stop" column on Attachment 3, Page 1.	
Comment		
EXAMINER NOTE:	The stop data is provided to the examinee on the JPM briefing sheet.	

STEP 4 : $\bar{T}$	Determine RCS Leak Rate. (4-OSP-041.1, step 7.1.2.15.c and Attachment 3 page 1 steps 10-14)	___ SAT ___ UNSAT
Standard:	Examinee calculates the RCS Gross Leak Rate of 1.3 gpm $\pm$ 0.1 gpm **AND** Examinee calculates the RCS Identified Leak Rate of 0.13 $\pm$ 0.01 gpm **AND** Examinee calculates the RCS Unidentified Leak Rate of 1.17 $\pm$ 0.1 gpm	
Comment		
EXAMINER NOTE:	The procedure note for this step of the procedure ONLY applies to obtaining data using the PC method.	
EXAMINER NOTE:	See attached ATTACHMENT 3 key for all calculation results and reference numbers.	

STEP 5 :	SM Notified that gross leak rate is greater than 1 gpm. (4-OSP-041.1, Attachment 3 page 1 Note 1)	___ SAT ___ UNSAT
Standard:	Examinee notifies the Shift Manager that gross leak rate is greater than 1 gpm due to unidentified leakage > 1.0 gpm.	
Cue	When asked provide the following cue, "The Shift Manager has been informed."	
Comment		

STEP 6 :	Determine surveillance acceptance criteria (4-OSP-041.1, Attachment 3 page 2)	___ SAT ___ UNSAT
Standard:	Examinee determines surveillance acceptance criteria are NOT met due to Unidentified RCS Leakage being greater than 1 gpm..	
Comment		
EXAMINER NOTE:	Surveillance acceptance criteria are **NOT** met due to Unidentified RCS Leakage in excess of 1 gpm.	

Terminating Cue:	**When the examinee determines acceptance criteria is NOT met, provide the following cue, "Another Operator will complete the remaining steps of this procedure."**	**STOP**

Stop Time _____

Verification of Completion

Job Performance Measure No. R A.1

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Question Documentation:

Question:

_____

_____

_____

_____

_____

Response:

_____

_____

_____

_____

_____

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: _____ _____

JPM BRIEFING SHEET

The examiner 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 4 is at 100% power, steady state.
- All 4-OSP-041.1, "Reactor Coolant System Leak Rate Calculation" prerequisites have been met.
- ERDADS is not available.
- Combined Charging Pump primary packing leakage is 0.05 gpm
- Combined Charging Pump primary packing leakage as determined by Attachment 4 is 0.05 gpm
- Non-Reactor Coolant Pressure Boundary (RCPB) Leakage as determined by Attachment 6 is 0.0 gpm
- CV-4-2821 and CV-4-2822, Containment Sump Pump Discharge have been restored to normal.
- LC-4-112A VCT Level Controller has been restored to normal.

INITIATING CUE:

- You are the Unit 4 RCO on Peak Shift and have been directed to perform an RCS leak rate calculation by completing 4-OSP-041.1, "Reactor Coolant System Leak Rate Calculation" Attachment 3 Leak Rate Calculation Data Sheet (Manual Method).
- The start and stop data for the leakrate calculation are provided to you on the JPM Briefing Sheet.
- After calculating the leak rates, determine any required action.

START DATA			STOP DATA	
Parameter	**Value**		**Parameter**	**Value**
Time	1900		Time	2300
VCT Level	50		VCT Level	28
PZR level	53%		PZR level	53%
PW Totalizer	0		PW Totalizer	0
BA Totalizer	0		BA Totalizer	0
PRT level	71%		PRT level	71%
RCDT level	15%		RCDT level	25%
Cont. Sump level	120 gal.		Cont. Sump level	120 gal.
Tavg	574^0F		Tavg	574^0 F

Acknowledge to the examiner when you are ready to begin.

HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.

R.A.1 Key TRAINING ONLY

ATTACHMENT 3
(Page 1 of 4)
LEAK RATE CALCULATION DATA SHEET (MANUAL METHOD)

QA RECORD PAGE

(Page 1 of 4)

Date: TODAY

PEAK SHIFT

	ERDADS	Meter No.	Start	Stop	Start + Stop / 2	*CF	(Stop-Start) xCF
1. TIME	N/A	N/A	1900	2300	//////////	N/A	240 min
2. VCT Level	L115_A	LI-4-115	50 %	28 %	//////////	14.15	-311.3 gal
3. PZR Level	L462_A	LI-4-459A	53 %	53 %	//////////	42.1	0 gal
4. Primary Water Totalizer	TOTPWCG_V	N/A	0 gal	0 gal	//////////	1	0 gal
5. Boric Acid Totalizer	TOTBACG_V	N/A	0 gal	0 gal	//////////	1	0 gal
6. PRT Level	L470_A	LI-4-470	71 %	71 %	//////////	100	0 gal
7. RCDT Level	4L1003_A	LI-4-1003	15 %	25 %	//////////	3.2	32 gal
8. Cont. Sump Level	L1546_A	LR-4-1418	120 gal	120 gal	//////////	1	0 gal
9. Tavg	AUCT_TAV_A	**** TR-4-408	574 °F	574 °F	574 °F	**	0 gal

* CF = Conversion Factor
** Obtain CF for Tavg from Enclosure 1
**** **IF** Tavg ≤ 540°F, use TR-4-410, TR-4-413, **AND** average the temperatures $\frac{(T_C + T_H)}{2}$ of the operating loops.

RCS LEAK RATE CALCULATION

10. -311.3 (ΔVCT Lvl, Line 2) + 0 (ΔPZR Lvl, Line 3) - 0 (Primary Water, Line 4) - 0 (Boric Acid, Line 5) - 0 (ΔTavg, Line 9) = -311.3 gal (ΔTotal gal)

11. (-) -311.3 (ΔTotal gal, Line 10) ÷ 240 (ΔTime, Line 1) = 1.30 gpm (Gross RCS Leak Rate (Note 1))

12. **IF** RCS Gross Leakage is greater than 0.1 gpm, **THEN** obtain primary to secondary leak rate from Chemistry and record: 0.0 gpm.

REFERENCE LEAKAGE (For Information)

13. (0 (ΔPRT Level, Line 6) + 32 (ΔRCDT Level, Line 7)) ÷ 240 (ΔTime, Line 1) = 0.13 gpm (Identified Leakage)

14. 1.30 (Gross RCS Leak Rate, Line 11) - 0.13 (Identified Leakage, Line ~~12~~ 13) - 0.05 (Note 2) - 0.0 (Note 3) = 1.12 gpm (Unidentified Leakage)

Note 1 **IF** the RCS gross leak rate is greater than 1 gpm, **THEN** immediately notify the Shift Manager.

Note 2 This is the combined Charging Pump primary leakage in gpm rounded to two decimal places. This value is determined using Attachment 4. However, the value from 4-OP-047, CVCS-Charging and Letdown, Section 7.14, Determination of Charging Pump Primary and Secondary Packing Leakage may be used if it is performed during the same time frame as the Leak Rate Calculation.

Note 3 This is the sum of all measured Non-RCPB leakage (other than Charging Pump packing leakage) in gpm rounded to two decimal places. This value is determined using Attachment 6.

W2003:JC/mrg/mrg/nw

TRAINING ONLY

ATTACHMENT 3
(Page 2 of 4)

LEAK RATE CALCULATION DATA SHEET (MANUAL METHOD)

QA RECORD PAGE

(Page 2 of 4)

PEAK SHIFT

Component	Description	Position	Checked	Verified
CV-4-2821	Containment Sump Pump Discharge	OPEN (Note 4)		
CV-4-2822	Containment Sump Pump Discharge	OPEN (Note 4)		
LC-4-112A	VCT Level Controller	Set to 37%/AUTO		

Note 4 - Control Switch Spring returns to AUTO from OPEN.

REMARKS: _____

ACCEPTANCE CRITERIA

1. RCS pressure boundary leakage shall not exist.
2. Unidentified RCS Leakage is less than 1 gpm.
3. Identified leakage from the RCS is less than 10 gpm.
4. Primary to Secondary Leak Rate is less than or equal to 0.1 gpm.

☐ Satisfactory ☒ Unsatisfactory

Performed By: _____ Date _____

Verified By: _____ Date _____

Reviewed By: _____ Date _____
Shift Manager or SRO Designee

RO A.1 TRAINING ONLY

Florida Power & Light Company

Turkey Point Nuclear Plant

Unit 4

This procedure may be affected by an O.T.S.C. (On The Spot Change) verify information prior to use.
Date verified_____ Initials_____

4-OSP-041.1

Title:

Reactor Coolant System Leak Rate Calculation

(Continuous Use)

Safety Related Procedure

Responsible Department:	Operations
Revision Approval Date:	~~10/13/08~~

PCR *08-1840, 08-2314, 08-4445*
RTSs *88-1514, 88-1746, 88-2473, 89-2202, 89-2373, 89-3281, 90-0847, 90-0142P, 90-2494, 91-3240, 93-0648P, 93-0517P, 94-0829P, 94-1103P, 94-1553P, 95-1291P, 96-0753P; 97-1364P, 98-0419P, 99-0505P, 99-0597P, 00-0092P, 00-0516P, 02-0271P, 02-0787P, 03-0237P, 03–0492P, 03-0584P, 03-0877P, 04-0180P, 04-1054P, 05-0066P, 05-0567P, 06-0167P, 06-0660P, 06-0960P, 07-0571P, 07-0859P, 08-0444P, 07-0956P, 08-0510* TC 08-0321
OTSCs *5272, 5410, 5444, 5615, 7609, 0493-96, 0543-98, 0775-97, 0400-01, 0305-02, 0040-03, 0106-04, 0351-04, 0110-06*
PC/M *90-024, 06-049, 04-113, 06-031*

W2003:JC/mrg/mrg/nw

TRAINING ONLY

LIST OF EFFECTIVE PAGES

Page	Revision Date	Page	Revision Date
1	10/13/08	23	10/13/08
2	10/13/08	24	10/13/08
3	10/13/08	25	10/13/08
4	10/13/08	26	10/13/08
5	10/13/08	27	10/13/08
6	10/13/08	28	10/13/08
7	10/13/08	29	10/13/08
8	10/13/08	30	~~10/13/08~~
9	10/13/08	31	10/13/08
10	10/13/08	32	10/13/08
11	10/13/08	33	10/13/08
12	10/13/08	34	10/13/08
13	10/13/08	35	10/13/08
14	10/13/08	36	10/13/08
15	10/13/08	37	10/13/08
16	10/13/08	38	10/13/08
17	10/13/08	39	10/13/08
18	10/13/08	40	10/13/08
19	10/13/08	41	10/13/08
20	10/13/08		
21	10/13/08		
22	10/13/08		

INIT

7.0 PROCEDURE

7.1 RCS Leak Rate Calculation

INITIALS
CK'D VERIF

Date/Time Started: TODAY / XXXX

7.1.1 Initial Conditions

G 1. Applicable prerequisites listed in Section 3.0 are satisfied.

G 2. The Chemistry Hot Lab is notified that an RCS Leak Rate will be performed and that all RCS sampling shall be terminated for the test duration.

G 3. Changes to parameters in the associated leakrate Attachment are not anticipated for the duration of the leakrate test.

7.1.2 Procedure Steps

NOTES

- *The order of preference for the leak rate calculation method used is ERDADS, PC Leakrate, and then Manual. [Commitment – Steps 2.3.5 and 2.3.6]*
- *If any ERDADS RCS leak rate calculation input is not operating correctly, the RCS leak rate calculation may be affected without any indication of the malfunction. Incorrect operation may be indicated by poor or bad status, no change in the readings or by a lack of 4 decimal places on the RCS, VCT, and RCDT parameters.*
- *For the purpose of conducting the RCS water inventory balance, refer to the Precautions/Limitations and the Technical Specifications for definitions of leakage.*

NA 1. **IF** calculating an ERDADS RCS leak rate for a specific time period within the last 24 hours with an End Time prior to the current time, **THEN** perform the following:

a. Evaluate for leak rate duration, Start time, and End time by performing the following:

NA
- Check with Chemistry Department personnel if and when RCS sample valves were open.

NA
- Check if and when RCDT pumped down.

NA
- Check if and when Containment Sump pumped down.

NA
- Check if and when any makeup to VCT occurred.

NA
- Check for stable RCS Tavg.

INITIALS
CK'D VERIF

7.1.2.1 (Cont'd)

N/A b. Determine a leak rate duration to be used based upon the above information.

N/A c. Determine leak rate Start and End times to be used.

N/A d. On ERDADS Operator Workstation AW0401 or AW0402, select the <UTILITIES MENU> button.

N/A e. Select <RCS LEAK RATE CALCULATION>.

N/A f. Select <CONFIGURE RCS LEAK RATE CALCULATION>

N/A g. Select <OPERATOR ENTERED TIME> for Select Leak Rate Calculation End Time.

N/A h. Enter a value from 00 to 23 for End Time HH (hour).

N/A i. Enter a value from 00 to 59 for End Time MM (minutes).

N/A j. Select desired duration button for Select Leak Rate Calculation Duration.

N/A k. Select <RUN CALCULATION> button.

N/A l. Print the ERDADS leak rate calculation.

N/A m. Record leak rate information on Attachment 1.

N/A n. Go to Substep 7.1.2.16.

N/A 2. Verify with Chemistry Department personnel that RCS sample valves are closed.

INITIALS
CK'D VERIF

7.1.2 (Cont'd)

3. Direct the SNPO to perform the following to prevent pumping, system makeup, or parameter changes during test:

NA a. **IF** necessary, **THEN** manually pump the RCDT to between 15 and 25 percent using 4-OP-061.3, Reactor Coolant Drain Tank.

> **CAUTION**
>
> ***Maintaining sump level greater than 100 gallons ensures sump pumps will not cavitate.***

b. **IF** necessary, and sump level is greater than 150 gallons, **THEN** manually pump down the Containment Sump as follows:

N/A (1) Establish communication between the Unit RO and the operator at the appropriate breaker (40667 for 4A Containment Sump Pump or 40778 for 4B Containment Sump Pump).

NA (2) Begin pumping the Containment Sump by locally depressing and holding the START pushbutton on the breaker faceplate.

NA (3) Monitor Containment Sump level on R-1418 (U4 VPA).

NA (4) **WHEN** the Containment Sump level reaches 100 to 125 gallons, **THEN** release the START pushbutton.

4. **IF** the leak rate is expected to be greater than 0.25 gpm, **THEN** close the following valves:

G a. Containment Sump Pump Discharge, CV-4-2821

G b. Containment Sump Pump Discharge, CV-4-2822

> **NOTE**
>
> *VCT Level Controller LC-4-112A setpoint may be raised to avoid letdown diversion during the test.*

G 5. Adjust VCT Level Controller, LC-4-112A, as necessary up to 70%.

INITIALS
CK'D VERIF

7.1.2 (Cont'd)

NOTE

Power level, current VCT level, and rate of makeup should be considered in determining a VCT level high enough to avoid makeup during the test.

G 6. Raise VCT level to between 20 and 70 percent (high enough to avoid makeup during the test).

7. Record required data:

NA a. **IF** using the ERDADS method to determine RCS leak rate, **THEN** record the time and selected test duration on Attachment 1.

NA b. **IF** using the PC RCS leak rate method, **THEN** record required data under the Start column on Attachment 2.

G c. **IF** using the manual RCS leak rate method, **THEN** record required data under the Start column on Attachment 3.

NOTES

If the leak rate must be calculated over a short duration due to plant transients (i.e., xenon, startup, etc), a full length leak rate is required to be performed within 12 hours after achieving steady-state operation.

Recommended minimum duration for the calculation is four hours.

NA 8. **IF** the surveillance can **NOT** be performed for the selected duration, **THEN** indicate the reason in the Remarks Section on Attachment 1, 2, or 3, as applicable.

9. **IF** Annunciator G 9/5, CNTMT SUMP HI LEVEL, or I 4/6, CNTMT SUMP HI LEVEL, actuates, **THEN** perform the following:

NA a. **IF** using the ERDADS RCS Leak Rate Calculation Program, **THEN** terminate the calculation.

NA b. **IF** using the PC method, **THEN** record STOP data in Attachment 2.

NA c. **IF** using the manual method, **THEN** record STOP data in Attachment 3.

NA d. Go to Substep 7.1.2.13.

INITIALS
CK'D VERIF

7.1.2 (Cont'd)

10. **WHEN** the RCS Leak Rate Calculation duration time has expired, **THEN** perform the following:

N/A a. **IF** using the ERDADS RCS Leak Rate Calculation Program, **THEN** perform the following:

N/A 1. On ERDADS Operator Workstation AW0401 or AW0402, select the <UTILITIES MENU> button.

N/A 2. Select <RCS LEAK RATE CALCULATION>.

N/A 3. Select <CONFIGURE RCS LEAK RATE CALCULATION>.

N/A 4. To calculate leak rate for the past 15 minutes from the CURRENT TIME, select the <RUN CALCULATION> button **AND** go to Substep 7.1.2.10.d.

5. To calculate leak rate from the CURRENT TIME, perform the following:

N/A (a) Select <CURRENT TIME> for Select Leak Rate Calculation End Time.

N/A (b) Select applicable Select Leak Rate Calculation Duration button.

N/A (c) Select <RUN CALCULATION> button.

N/A (d) Go to Substep 7.1.2.10.d.

N/A b. **IF** using the PC method, **THEN** record STOP data in Attachment 2.

0 c. **IF** using the manual method, **THEN** record STOP data in Attachment 3.

N/A d. Print the ERDADS or PC RCS leak rate calculation, as applicable.

11. **IF** only one charging pump is affected by primary packing leakage that exceeds the capability of the leak collection method used to determine the packing leak rate, **THEN** perform the following:

N/A a. Isolate the affected charging pump.

N/A b. Re-perform the RCS leakrate calculation.

N/A c. Expedite restoration of the isolated charging pump.

INITIALS
CK'D VERIF

7.1.2 (Cont'd)

12. **IF** two charging pumps concurrently have primary packing leakage that exceeds the capability of the leak collection method used to determine the packing leak rate, **THEN** perform the following:

N/A a. Refer to Technical Specifications (Step 3.1.2)

N/A b. Isolate the affected charging pumps.

NOTE

The time period selected for leakrate calculation should not exceed two hours to limit the amount of time both charging pumps are out of service.

N/A c. Re-perform the RCS leakrate calculation.

N/A d. Expedite restoration of the isolated charging pumps.

NOTE

Substeps 7.1.2.13 through 7.1.2.15 may be performed in any order.

13. Ensure open the following valves:

G a. Containment Sump Pump Discharge, CV-4-2821

G b. Containment Sump Pump Discharge, CV-4-2822

14. Restore VCT Level Controller, LC-4-112A, setpoint to 37 percent as follows: (N/A if not applicable)

G a. Place VCT Level Controller, LC-4-112A, in MANUAL.

G b. Set VCT Level Controller to 37 percent.

G c. Place VCT Level Controller, LC-4-112A, in AUTO.

INITIALS
CK'D VERIF

7.1.2 (Cont'd)

NOTE

When using the PC Leakrate method, a choice of three options is presented to determine the density of the fluid.

Option 1 (preferred method) uses standard conditions, i.e., 70.0°F and 14.7 psia. Option 1 determines the amount of fluid needed to replace the losses from the RCS.

Option 2 uses the average RCS conditions, i.e., 574°F and 2235 psig, to compute the leak rate. This option will give a higher leak rate than Option 1.

Option 3 may be used to reflect the actual condition of the leaking fluid from the RCS if the leakage is known to be primarily from a location where temperature and/or pressure is NOT the same as the RCS (examples leaking PORV, leak off the Cold legs).

15. Determine RCS Leak Rate using one or more of the following methods:

N/A

a. Determine the leak rate using the ERDADS method:

(1) Compare start and stop parameters on ERDADS printout to verify that ERDADS responded to plant changes as follows:

(a) Start and stop parameters given to 2 decimal places except for time.

(b) Verify data changes from initial to final readings.

(2) **IF** ERDADS data is suspect with regard to accuracy or operability, **THEN** use a leak rate calculation method that is not dependent upon the suspect data.

(3) Attach ERDADS printout to Attachment 1.

N/A

b. Determine the leak rate using the PC Leakrate method.

(1) Double-click the Leakrate.bat icon on the desktop.

(2) Perform program instructions.

(3) Steps may be repeated and information may be copied from the screen if no printer is configured.

(4) Attach personal computer printout to Attachment 2, if applicable.

G

c. Determine the leak rate using the manual method by performing the leakage calculations as required on Attachment 3.

INITIALS
CK'D VERIF

7.1.2 (Cont'd)

NOTES

- *An adverse trend is an increasing leakrate over four successive tests, or an increase of 0.10 gpm in two successive tests over the previous trend.*
  Example: Previous leakrate was 0.05 gpm and the next two are 0.15 gpm - a level 2 Leak Investigation is required.
- *With RCS Gross Leakage greater than 1.0 gpm, an RCS leak evaluation using 4-OSP-041.2, RCS Visual Leak Inspection and Leak Evaluation, along with a Safety Evaluation to ensure the plant remains within the design basis, is required to continue operation of the unit. [Commitment - Steps 2.3.1, 2.3.2, 2.3.5 and 2.3.6.]*
- *Charging pump leakage is not a component of RCS leakage. The RCS leakage calculation excludes measured charging pump packing leakage.*

6 16. Determine if a Reactor Coolant System Leak Investigation is required using the below table:

Reactor Coolant System Leak Investigation Table			
Level Required	**Gross**	**Identified**	**Unidentified**
1	Increase of 0.05 gpm from previous leakrate		
			> 0.05 gpm
2	N/A	Greater than 0.2 gpm	Greater than 0.15 gpm
	Adverse trend (see notes above)		
3	N/A	Greater than 0.5 gpm	

[Commitment - Steps 2.3.5 and 2.3.6]

6 17. **IF** required, **THEN** perform a Reactor Coolant System Leak Investigation using Attachment 5.

NOTE

In order to take credit for the Non-Reactor Coolant Pressure Boundary Leakage, the leakage from components associated with this category must be validated during the same time frame that the RCS leak rate calculation is being performed. Otherwise, any Gross Leakage that is NOT Identified Leakage must be considered to be Unidentified Leakage.

6 18. **IF** a Level 2 Investigation is performed, **THEN** subtract Attachments 4 and 6 results from the unidentified RCS leak rate values of Attachment 1, 2, and 3.

INITIALS
CK'D VERIF

7.1.2 (Cont'd)

6 19. Record the RCS leak rates (gross, identified, and unidentified) obtained from Attachment 1, 2, or 3, as applicable, and charging pump packing leakage from Attachment 4, and Non-RCPB leakage (other than charging pump packing leakage) from Attachment 6, if performed, in the Unit Narrative Log.

6 20. Record results of any leak investigation performed in the Unit Narrative Log.

21. **IF** Acceptance Criteria is Unsatisfactory, **THEN** perform the following:

____ a. Refer to applicable Tech Specs.

____ b. Go to 4-ONOP-041.3, Excessive Reactor Coolant System Leakage.

Date/Time Completed:_____/_____

REMARKS: _____

PERFORMED BY (Print)	INITIALS	VERIFIED BY (Print)	INITIALS

Reviewed By: _____ DATE: _____
Shift Manager or SRO Designee

END OF TEXT

ATTACHMENT 3
(Page 1 of 4)
LEAK RATE CALCULATION DATA SHEET (MANUAL METHOD)

QA RECORD PAGE

(Page 1 of 4)

Date: _____

PEAK SHIFT

	ERDADS	Meter No.	Start	Stop	Start + Stop / 2	*CF	(Stop-Start) xCF
1. TIME	N/A	N/A			//////////	N/A	min
2. VCT Level	L115_A	LI-4-115	%	%	//////////	14.15	gal
3. PZR Level	L462_A	LI-4-459A	%	%	//////////	42.1	gal
4. Primary Water Totalizer	TOTPWCG_V	N/A	gal	gal	//////////	1	gal
5. Boric Acid Totalizer	TOTBACG_V	N/A	gal	gal	//////////	1	gal
6. PRT Level	L470_A	LI-4-470	%	%	//////////	100	gal
7. RCDT Level	4L1003_A	LI-4-1003	%	%	//////////	3.2	gal
8. Cont. Sump Level	L1546_A	LR-4-1418	gal	gal	//////////	1	gal
9. Tavg	AUCT_TAV_A	**** TR-4-408	°F	°F	°F	**	gal

* CF = Conversion Factor
** Obtain CF for Tavg from Enclosure 1
**** **IF** Tavg ≤ 540°F, use TR-4-410, TR-4-413, **AND** average the temperatures $\frac{(T_C + T_H)}{2}$ of the operating loops.

RCS LEAK RATE CALCULATION

10. _____ + _____ - _____ - _____ - _____ = _____ gal
ΔVCT Lvl Line 2 | ΔPZR Lvl Line 3 | Primary Water Line 4 | Boric Acid Line 5 | ΔTavg Line 9 | ΔTotal gal

11. (-) _____ ÷ _____ = _____ gpm
ΔTotal gal Line 10 | ΔTime Line 1 | Gross RCS Leak Rate (Note 1)

12. **IF** RCS Gross Leakage is greater than 0.1 gpm, **THEN** obtain primary to secondary leak rate from Chemistry and record: _____ gpm.

REFERENCE LEAKAGE (For Information)

13. (_____ + _____) ÷ _____ = _____ gpm
ΔPRT Level Line 6 | ΔRCDT Level Line 7 | ΔTime Line 1 | Identified Leakage

14. _____ – _____ - _____ - _____ = _____ gpm
Gross RCS Leak Rate Line 11 | Identified Leakage Line ~~12~~ 13 | (Note 2) | (Note 3) | Unidentified Leakage

Note:1. **IF** the RCS gross leak rate is greater than 1 gpm, **THEN** immediately notify the Shift Manager.

Note 2 This is the combined Charging Pump primary leakage in gpm rounded to two decimal places. This value is determined using Attachment 4. However, the value from 4-OP-047, CVCS-Charging and Letdown, Section 7.14, Determination of Charging Pump Primary and Secondary Packing Leakage may be used if it is performed during the same time frame as the Leak Rate Calculation.

Note 3 This is the sum of all measured Non-RCPB leakage (other than Charging Pump packing leakage) in gpm rounded to two decimal places. This value is determined using Attachment 6.

Facility:	Turkey Point	Task No:	01041036100
Task Title:	Review a Leakrate Calculation	JPM No:	S.A.1.a
K/A Reference:	2.1.7 SRO 4.7		
Examinee:		NRC Examiner:	
Facility Evaluator:		Date:	

Method of testing:

Simulated Performance X Actual Performance

Classroom X Simulator Plant

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- Unit 4 is at 100% power, steady state.
- All 4-OSP-041.1, "Reactor Coolant System Leak Rate Calculation" prerequisites have been met.
- ERDADS is not available.
- The RCS leak rate calculation was made using the manual method of Attachment 3.

Task Standards:

- The error in the RCS leak rates calculated using 4-OSP-041.1 Reactor Coolant System Leak Rate Calculation is discovered.
- Determination is made that acceptance criteria for 4-OSP-041.1 Reactor Coolant System Leak Rate Calculation is **NOT** met
- Determination is made that compliance with Technical Specification LCO 3.4.6.2.b Action b is required within four hours to maintain continued plant operation.

Required Materials:

- A completed copy of 4-OSP-041.1, "Reactor Coolant System Leak Rate Calculation".
- Calculator

General References:

- 4-OSP-041.1, "Reactor Coolant System Leak Rate Calculation"
- Technical Specifications TURKEY POINT - UNITS 3 & 4

Initiating Cue:

- You are the Unit 4 Unit Supervisor on Peak Shift and have been directed to perform the review of the completed 4-OSP-041.1, "Reactor Coolant System Leak Rate Calculation".
- Find all errors and determine any required actions (if any).

Time Critical Task: No

Validation Time: 30 minutes

HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!

SIMULATOR SETUP

Reset to IC #

N/A

Denote critical steps with a check mark(✓)

Start Time _____

NOTE:	Procedure note Recommended minimum duration for the calculation is four hours. The data provided in the initiating cue is four hours.	
STEP 1 :	Obtain a copy of 4-OSP-041.1, Reactor Coolant System Leak Rate Calculation	____ SAT ____ UNSAT
Standard:	Copy of 4-OSP-041.1, Reactor Coolant System Leak Rate Calculation is obtained.	
Cue	Provide a copy of the completed 4-OSP-041.1, Reactor Coolant System Leak Rate Calculation.	
Comment		

STEP 2 : ✓	Review the completed 4-OSP-041.1, Reactor Coolant System Leak Rate Calculation. (4-OSP-041.1, Attachment 3 page 1 and 2)	____ SAT ____ UNSAT
Standard:	The examinee discovers the error in the RCS leak rates calculated using 4-OSP-041.1 Reactor Coolant System Leak Rate Calculation by reviewing the completed 4-OSP-041.1, Attachment 3.	
Comment		
EXAMINER NOTE:	The omission of the Primary Water added causes an underestimation of 0.42 gpm to the calculated RCS Gross Leak Rate. The calculated RCS Gross Leak Rate should be 1.3 + 0.1 gpm The calculated RCS Unidentified Leak Rate should be 1.12 + 0.1 gpm See the exam key for a copy of the completed attachment.	

STEP 3 :	SM Notified that gross leak rate is greater than 1 gpm. (4-OSP-041.1, Attachment 3 page 1 Note 1)	___ SAT ___ UNSAT
Standard:	Examinee notifies the Shift Manager that gross leak rate is greater than 1 gpm.	
Cue	When asked provide the following cue, "The Shift Manager has been informed."	
Comment		

STEP 4 :	Determine surveillance acceptance criteria (4-OSP-041.1, Attachment 3 page 2)	___ SAT ___ UNSAT
Standard:	Examinee determines surveillance acceptance criteria are NOT met due to Unidentified RCS Leakage being greater than 1 gpm.	
Comment		
EXAMINER NOTE:	The leakrate calculation error results in the surveillance acceptance criteria inaccurately depicted as acceptable. If the error is detected and corrected, the surveillance acceptance criteria are **NOT** met due to Unidentified RCS Leakage in excess of 1 gpm.	

STEP 5 : $\bar{T}$	Refer to applicable Tech Specs (4-OSP-041.1, step 7.1.2.21.a) (Technical Specification LCO 3.4.6.2.b)	___ SAT ___ UNSAT
Standard:	Examinee determines Technical Specification LCO 3.4.6.2.b Action b is applicable. **AND** Determines continued operation with the existing leakrate is only allowed for up to four hours.	
Cue	Provide a copy of Sections 3/4.4.6.2 REACTOR COOLANT SYSTEM LEAKAGE.	
Comment		
EXAMINER NOTE:	The examinee must detect the error in the leakrate calculation to implement this step of the surveillance procedure.	

Terminating Cue:	**When the examinee determines continued operation with the existing leakrate is only allowed for up to four hours, inform the examinee the task is complete.**	**STOP**

Stop Time _____

Verification of Completion

Job Performance Measure No. S.A.1.a

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Question Documentation:

Question:

_____

_____

_____

_____

_____

Response:

_____

_____

_____

_____

_____

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: _____ _____

JPM BRIEFING SHEET

The examiner 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 4 is at 100% power, steady state.
- All 4-OSP-041.1, "Reactor Coolant System Leak Rate Calculation" prerequisites have been met.
- ERDADS is not available.
- The RCS leak rate calculation was made using the manual method of Attachment 3.

INITIATING CUE:

- You are the Unit 4 Unit Supervisor on Peak Shift and have been directed to perform the review of the completed 4-OSP-041.1, "Reactor Coolant System Leak Rate Calculation".
- Find all errors and determine any required actions (if any).

START DATA			STOP DATA	
Parameter	**Value**		**Parameter**	**Value**
Time	1900		Time	2300
VCT Level	50		VCT Level	35
PZR level	53%		PZR level	53%
PW Totalizer	0		PW Totalizer	100
BA Totalizer	0		BA Totalizer	0
PRT level	71%		PRT level	71%
RCDT level	15%		RCDT level	25%
Cont. Sump level	120 gal.		Cont. Sump level	120 gal.
Tavg	574°F		Tavg	574°F

Acknowledge to the examiner when you are ready to begin.

HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.

SRO A.1.a KEY TRAINING ONLY

ATTACHMENT 3
(Page 1 of 4)
LEAK RATE CALCULATION DATA SHEET (MANUAL METHOD)

QA RECORD PAGE

(Page 1 of 4)

Date: TODAY

PEAK SHIFT

	ERDADS	Meter No.	Start	Stop	Start + Stop / 2	*CF	(Stop-Start) xCF
1 TIME	N/A	N/A	1900	2300	//////////	N/A	240 min
2 VCT Level	L115_A	LI-4-115	50 %	35 %	//////////	14.15	-212.25 gal
3 PZR Level	L462_A	LI-4-459A	53 %	53 %	//////////	42.1	0 gal
4 Primary Water Totalizer	TOTPWCG_V	N/A	0 gal	100 gal	//////////	1	0 gal
5 Boric Acid Totalizer	TOTBACG_V	N/A	0 gal	0 gal	//////////	1	0 gal
6 PRT Level	L470_A	LI-4-470	71 %	71 %	//////////	100	0 gal
7 RCDT Level	4L1003_A	LI-4-1003	15 %	25 %	//////////	3.2	32 gal
8 Cont. Sump Level	L1546_A	LR-4-1418	120 gal	120 gal	//////////	1	0 gal
9 Tavg	AUCT_TAV_A	**** TR-4-408	574 °F	574 °F	574 °F	**	0 gal

* CF = Conversion Factor
** Obtain CF for Tavg from Enclosure 1
**** **IF** Tavg ≤ 540°F, use TR-4-410, TR-4-413, **AND** average the temperatures $\frac{(T_C + T_H)}{2}$ of the operating loops.

RCS LEAK RATE CALCULATION

10. -212.25 (ΔVCT Lvl, Line 2) + 0 (ΔPZR Lvl, Line 3) - 100 (Primary Water, Line 4) - 0 (Boric Acid, Line 5) - 0 (ΔTavg, Line 9) = -312.25 gal (ΔTotal gal)

11. (-) -312.25 (ΔTotal gal, Line 10) ÷ 240 (ΔTime, Line 1) = 1.30 gpm (Gross RCS Leak Rate (Note 1))

12. **IF** RCS Gross Leakage is greater than 0.1 gpm, **THEN** obtain primary to secondary leak rate from Chemistry and record: 0.0 gpm.

REFERENCE LEAKAGE (For Information)

13. (0 (ΔPRT Level, Line 6) + 32 (ΔRCDT Level, Line 7)) ÷ 240 (ΔTime, Line 1) = 0.13 gpm (Identified Leakage)

14. 1.30 (Gross RCS Leak Rate, Line 11) - 0.13 (Identified Leakage, Line ~~12~~ 13) - 0.05 (Note 2) - 0.0 (Note 3) = 1.12 gpm (Unidentified Leakage)

Note 1 **IF** the RCS gross leak rate is greater than 1 gpm, **THEN** immediately notify the Shift Manager.

Note 2 This is the combined Charging Pump primary leakage in gpm rounded to two decimal places. This value is determined using Attachment 4. However, the value from 4-OP-047, CVCS-Charging and Letdown, Section 7.14, Determination of Charging Pump Primary and Secondary Packing Leakage may be used if it is performed during the same time frame as the Leak Rate Calculation.

Note 3 This is the sum of all measured Non-RCPB leakage (other than Charging Pump packing leakage) in gpm rounded to two decimal places. This value is determined using Attachment 6.

SRO A.1.a KEY TRAINING ONLY

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATING

3.4.6.2 Reactor Coolant System operational leakage shall be limited to:

a. No PRESSURE BOUNDARY LEAKAGE,

b. 1 GPM UNIDENTIFIED LEAKAGE,

c. 150 gallons per day primary-to-secondary leakage through any one steam generator (SG),

d. 10 GPM IDENTIFIED LEAKAGE from the Reactor Coolant System, and

e. Leakage as specified in Table 3.4-1 up to a maximum of 5 GPM at a Reactor Coolant System pressure of 2235 ± 20 psig from any Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-1.*

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With any PRESSURE BOUNDARY LEAKAGE, or with primary-to-secondary leakage not within limit, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With any Reactor Coolant System operational leakage greater than any one of the above limits, excluding primary-to-secondary leakage, PRESSURE BOUNDARY LEAKAGE, and leakage from Reactor Coolant System Pressure Isolation Valves, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With any Reactor Coolant System Pressure Isolation Valve leakage greater than allowed by 3.4.6.2.e above operation may continue provided:

1. Within 4 hours verify that at least two valves in each high pressure line having a non-functional valve are in, and remain in that mode corresponding to the isolated condition, i.e., manual valves shall be locked in the closed position; motor operated valves shall be placed in the closed position and power supplies deenergized. Follow applicable ACTION statement for the affected system, and

* Test pressure less than 2235 psig are allowed. Minimum differential test pressure shall not be less than 150 psid. Observed leakage shall be adjusted for the actual test pressure up to 2235 psig assuming the leakage to be directly proportional to pressure differential to the one-half power.

RO A.1 TRAINING ONLY

Florida Power & Light Company

Turkey Point Nuclear Plant

Unit 4

This procedure may be affected by an O.T.S.C. (On The Spot Change) verify information prior to use.
Date verified_____ Initials_____

4-OSP-041.1

Title:

Reactor Coolant System Leak Rate Calculation

(Continuous Use)

Safety Related Procedure

Responsible Department:	Operations
Revision Approval Date:	~~10/13/08~~

PCR *08-1840, 08-2314, 08-4445*
RTSs *88-1514, 88-1746, 88-2473, 89-2202, 89-2373, 89-3281, 90-0847, 90-0142P, 90-2494, 91-3240, 93-0648P, 93-0517P, 94-0829P, 94-1103P, 94-1553P, 95-1291P, 96-0753P, 97-1364P, 98-0419P, 99-0505P, 99-0597P, 00-0092P, 00-0516P, 02-0271P, 02-0787P, 03-0237P, 03–0492P, 03-0584P, 03-0877P, 04-0180P, 04-1054P, 05-0066P, 05-0567P, 06-0167P, 06-0660P, 06-0960P, 07-0571P, 07-0859P, 08-0444P, 07-0956P, 08-0510*
OTSCs *5272, 5410, 5444, 5615, 7609, 0493-96, 0543-98, 0775-97, 0400-01, 0305-02, 0040-03, 0106-04, 0351-04, 0110-06*
PC/M *90-024, 06-049, 04-113, 06-031*

TC 08-0321

W2003:JC/mrg/mrg/nw

TRAINING ONLY

LIST OF EFFECTIVE PAGES

Page	Revision Date	Page	Revision Date
1	10/13/08	23	10/13/08
2	10/13/08	24	10/13/08
3	10/13/08	25	10/13/08
4	10/13/08	26	10/13/08
5	10/13/08	27	10/13/08
6	10/13/08	28	10/13/08
7	10/13/08	29	10/13/08
8	10/13/08	30	~~10/13/08~~
9	10/13/08	31	10/13/08
10	10/13/08	32	10/13/08
11	10/13/08	33	10/13/08
12	10/13/08	34	10/13/08
13	10/13/08	35	10/13/08
14	10/13/08	36	10/13/08
15	10/13/08	37	10/13/08
16	10/13/08	38	10/13/08
17	10/13/08	39	10/13/08
18	10/13/08	40	10/13/08
19	10/13/08	41	10/13/08
20	10/13/08		
21	10/13/08		
22	10/13/08		

ATTACHMENT 3
(Page 1 of 4)
LEAK RATE CALCULATION DATA SHEET (MANUAL METHOD)

QA RECORD PAGE

(Page 1 of 4)

Date: _____

PEAK SHIFT

	ERDADS	Meter No.	Start	Stop	Start + Stop / 2	*CF	(Stop-Start) xCF
1. TIME	N/A	N/A			//////////	N/A	min
2. VCT Level	L115_A	LI-4-115	%	%	//////////	14.15	gal
3. PZR Level	L462_A	LI-4-459A	%	%	//////////	42.1	gal
4. Primary Water Totalizer	TOTPWCG_V	N/A	gal	gal	//////////	1	gal
5. Boric Acid Totalizer	TOTBACG_V	N/A	gal	gal	//////////	1	gal
6. PRT Level	L470_A	LI-4-470	%	%	//////////	100	gal
7. RCDT Level	4L1003_A	LI-4-1003	%	%	//////////	3.2	gal
8. Cont. Sump Level	L1546_A	LR-4-1418	gal	gal	//////////	1	gal
9. Tavg	AUCT_TAV_A	**** TR-4-408	°F	°F	°F	**	gal

* CF = Conversion Factor
** Obtain CF for Tavg from Enclosure 1
**** **IF** Tavg ≤ 540°F, use TR-4-410, TR-4-413, **AND** average the temperatures $\frac{(T_C + T_H)}{2}$ of the operating loops.

RCS LEAK RATE CALCULATION

10. _____ + _____ - _____ - _____ - _____ = _____ gal
ΔVCT Lvl Line 2 | ΔPZR Lvl Line 3 | Primary Water Line 4 | Boric Acid Line 5 | ΔTavg Line 9 | ΔTotal gal

11. (-) _____ ÷ _____ = _____ gpm
ΔTotal gal Line 10 | ΔTime Line 1 | Gross RCS Leak Rate (Note 1)

12. **IF** RCS Gross Leakage is greater than 0.1 gpm, **THEN** obtain primary to secondary leak rate from Chemistry and record: _____ gpm.

REFERENCE LEAKAGE (For Information)

13. (_____ + _____) ÷ _____ = _____ gpm
ΔPRT Level Line 6 | ΔRCDT Level Line 7 | ΔTime Line 1 | Identified Leakage

14. _____ – _____ - _____ - _____ = _____ gpm
Gross RCS Leak Rate Line 11 | Identified Leakage Line ~~12~~ 13 | (Note 2) | (Note 3) | Unidentified Leakage

Note:1. **IF** the RCS gross leak rate is greater than 1 gpm, **THEN** immediately notify the Shift Manager.

Note 2 This is the combined Charging Pump primary leakage in gpm rounded to two decimal places. This value is determined using Attachment 4. However, the value from 4-OP-047, CVCS-Charging and Letdown, Section 7.14, Determination of Charging Pump Primary and Secondary Packing Leakage may be used if it is performed during the same time frame as the Leak Rate Calculation.

Note 3 This is the sum of all measured Non-RCPB leakage (other than Charging Pump packing leakage) in gpm rounded to two decimal places. This value is determined using Attachment 6.

INIT

7.0 PROCEDURE

7.1 RCS Leak Rate Calculation

INITIALS
CK'D VERIF

Date/Time Started: TODAY / XXXX

7.1.1 Initial Conditions

G 1. Applicable prerequisites listed in Section 3.0 are satisfied.

G 2. The Chemistry Hot Lab is notified that an RCS Leak Rate will be performed and that all RCS sampling shall be terminated for the test duration.

G 3. Changes to parameters in the associated leakrate Attachment are not anticipated for the duration of the leakrate test.

7.1.2 Procedure Steps

NOTES

- *The order of preference for the leak rate calculation method used is ERDADS, PC Leakrate, and then Manual. [Commitment – Steps 2.3.5 and 2.3.6]*
- *If any ERDADS RCS leak rate calculation input is not operating correctly, the RCS leak rate calculation may be affected without any indication of the malfunction. Incorrect operation may be indicated by poor or bad status, no change in the readings or by a lack of 4 decimal places on the RCS, VCT, and RCDT parameters.*
- *For the purpose of conducting the RCS water inventory balance, refer to the Precautions/Limitations and the Technical Specifications for definitions of leakage.*

NA 1. **IF** calculating an ERDADS RCS leak rate for a specific time period within the last 24 hours with an End Time prior to the current time, **THEN** perform the following:

a. Evaluate for leak rate duration, Start time, and End time by performing the following:

- N/A Check with Chemistry Department personnel if and when RCS sample valves were open.
- N/A Check if and when RCDT pumped down.
- N/A Check if and when Containment Sump pumped down.
- N/A Check if and when any makeup to VCT occurred.
- N/A Check for stable RCS Tavg.

INITIALS CK'D VERIF	7.1.2.1 (Cont'd)
N/A	b. Determine a leak rate duration to be used based upon the above information.
N/A	c. Determine leak rate Start and End times to be used.
N/A	d. On ERDADS Operator Workstation AW0401 or AW0402, select the <UTILITIES MENU> button.
N/A	e. Select <RCS LEAK RATE CALCULATION>.
N/A	f. Select <CONFIGURE RCS LEAK RATE CALCULATION>
N/A	g. Select <OPERATOR ENTERED TIME> for Select Leak Rate Calculation End Time.
N/A	h. Enter a value from 00 to 23 for End Time HH (hour).
N/A	i. Enter a value from 00 to 59 for End Time MM (minutes).
N/A	j. Select desired duration button for Select Leak Rate Calculation Duration.
N/A	k. Select <RUN CALCULATION> button.
N/A	l. Print the ERDADS leak rate calculation.
N/A	m. Record leak rate information on Attachment 1.
N/A	n. Go to Substep 7.1.2.16.
N/A	2. Verify with Chemistry Department personnel that RCS sample valves are closed.

INITIALS
CK'D VERIF

7.1.2 (Cont'd)

3. Direct the SNPO to perform the following to prevent pumping, system makeup, or parameter changes during test:

N/A a. **IF** necessary, **THEN** manually pump the RCDT to between 15 and 25 percent using 4-OP-061.3, Reactor Coolant Drain Tank.

> **CAUTION**
>
> ***Maintaining sump level greater than 100 gallons ensures sump pumps will not cavitate.***

b. **IF** necessary, and sump level is greater than 150 gallons, **THEN** manually pump down the Containment Sump as follows:

N/A (1) Establish communication between the Unit RO and the operator at the appropriate breaker (40667 for 4A Containment Sump Pump or 40778 for 4B Containment Sump Pump).

N/A (2) Begin pumping the Containment Sump by locally depressing and holding the START pushbutton on the breaker faceplate.

N/A (3) Monitor Containment Sump level on R-1418 (U4 VPA).

N/A (4) **WHEN** the Containment Sump level reaches 100 to 125 gallons, **THEN** release the START pushbutton.

4. **IF** the leak rate is expected to be greater than 0.25 gpm, **THEN** close the following valves:

G a. Containment Sump Pump Discharge, CV-4-2821

G b. Containment Sump Pump Discharge, CV-4-2822

> **NOTE**
>
> *VCT Level Controller LC-4-112A setpoint may be raised to avoid letdown diversion during the test.*

G 5. Adjust VCT Level Controller, LC-4-112A, as necessary up to 70%.

INITIALS
CK'D VERIF

7.1.2 (Cont'd)

NOTE

Power level, current VCT level, and rate of makeup should be considered in determining a VCT level high enough to avoid makeup during the test.

G 6. Raise VCT level to between 20 and 70 percent (high enough to avoid makeup during the test).

7. Record required data:

NA a. **IF** using the ERDADS method to determine RCS leak rate, **THEN** record the time and selected test duration on Attachment 1.

NA b. **IF** using the PC RCS leak rate method, **THEN** record required data under the Start column on Attachment 2.

G c. **IF** using the manual RCS leak rate method, **THEN** record required data under the Start column on Attachment 3.

NOTES

If the leak rate must be calculated over a short duration due to plant transients (i.e., xenon, startup, etc), a full length leak rate is required to be performed within 12 hours after achieving steady-state operation.

Recommended minimum duration for the calculation is four hours.

NA 8. **IF** the surveillance can **NOT** be performed for the selected duration, **THEN** indicate the reason in the Remarks Section on Attachment 1, 2, or 3, as applicable.

9. **IF** Annunciator G 9/5, CNTMT SUMP HI LEVEL, or I 4/6, CNTMT SUMP HI LEVEL, actuates, **THEN** perform the following:

NA a. **IF** using the ERDADS RCS Leak Rate Calculation Program, **THEN** terminate the calculation.

NA b. **IF** using the PC method, **THEN** record STOP data in Attachment 2.

NA c. **IF** using the manual method, **THEN** record STOP data in Attachment 3.

NA d. Go to Substep 7.1.2.13.

INITIALS
CK'D VERIF

7.1.2 (Cont'd)

10. **WHEN** the RCS Leak Rate Calculation duration time has expired, **THEN** perform the following:

N/A a. **IF** using the ERDADS RCS Leak Rate Calculation Program, **THEN** perform the following:

N/A 1. On ERDADS Operator Workstation AW0401 or AW0402, select the <UTILITIES MENU> button.

N/A 2. Select <RCS LEAK RATE CALCULATION>.

N/A 3. Select <CONFIGURE RCS LEAK RATE CALCULATION>.

N/A 4. To calculate leak rate for the past 15 minutes from the CURRENT TIME, select the <RUN CALCULATION> button **AND** go to Substep 7.1.2.10.d.

5. To calculate leak rate from the CURRENT TIME, perform the following:

N/A (a) Select <CURRENT TIME> for Select Leak Rate Calculation End Time.

N/A (b) Select applicable Select Leak Rate Calculation Duration button.

N/A (c) Select <RUN CALCULATION> button.

N/A (d) Go to Substep 7.1.2.10.d.

N/A b. **IF** using the PC method, **THEN** record STOP data in Attachment 2.

0 c. **IF** using the manual method, **THEN** record STOP data in Attachment 3.

N/A d. Print the ERDADS or PC RCS leak rate calculation, as applicable.

11. **IF** only one charging pump is affected by primary packing leakage that exceeds the capability of the leak collection method used to determine the packing leak rate, **THEN** perform the following:

N/A a. Isolate the affected charging pump.

N/A b. Re-perform the RCS leakrate calculation.

N/A c. Expedite restoration of the isolated charging pump.

INITIALS
CK'D VERIF

7.1.2 (Cont'd)

12. **IF** two charging pumps concurrently have primary packing leakage that exceeds the capability of the leak collection method used to determine the packing leak rate, **THEN** perform the following:

N/A a. Refer to Technical Specifications (Step 3.1.2)

N/A b. Isolate the affected charging pumps.

NOTE

The time period selected for leakrate calculation should not exceed two hours to limit the amount of time both charging pumps are out of service.

N/A c. Re-perform the RCS leakrate calculation.

N/A d. Expedite restoration of the isolated charging pumps.

NOTE

Substeps 7.1.2.13 through 7.1.2.15 may be performed in any order.

13. Ensure open the following valves:

G a. Containment Sump Pump Discharge, CV-4-2821

G b. Containment Sump Pump Discharge, CV-4-2822

14. Restore VCT Level Controller, LC-4-112A, setpoint to 37 percent as follows: (N/A if not applicable)

G a. Place VCT Level Controller, LC-4-112A, in MANUAL.

G b. Set VCT Level Controller to 37 percent.

G c. Place VCT Level Controller, LC-4-112A, in AUTO.

INITIALS
CK'D VERIF

7.1.2 (Cont'd)

NOTE

When using the PC Leakrate method, a choice of three options is presented to determine the density of the fluid.

Option 1 (preferred method) uses standard conditions, i.e., 70.0°F and 14.7 psia. Option 1 determines the amount of fluid needed to replace the losses from the RCS.

Option 2 uses the average RCS conditions, i.e., 574°F and 2235 psig, to compute the leak rate. This option will give a higher leak rate than Option 1.

Option 3 may be used to reflect the actual condition of the leaking fluid from the RCS if the leakage is known to be primarily from a location where temperature and/or pressure is NOT the same as the RCS (examples leaking PORV, leak off the Cold legs).

15. Determine RCS Leak Rate using one or more of the following methods:

N/A

a. Determine the leak rate using the ERDADS method:

(1) Compare start and stop parameters on ERDADS printout to verify that ERDADS responded to plant changes as follows:

(a) Start and stop parameters given to 2 decimal places except for time.

(b) Verify data changes from initial to final readings.

(2) **IF** ERDADS data is suspect with regard to accuracy or operability, **THEN** use a leak rate calculation method that is not dependent upon the suspect data.

(3) Attach ERDADS printout to Attachment 1.

N/A

b. Determine the leak rate using the PC Leakrate method.

(1) Double-click the Leakrate.bat icon on the desktop.

(2) Perform program instructions.

(3) Steps may be repeated and information may be copied from the screen if no printer is configured.

(4) Attach personal computer printout to Attachment 2, if applicable.

G

c. Determine the leak rate using the manual method by performing the leakage calculations as required on Attachment 3.

INITIALS
CK'D VERIF

7.1.2 (Cont'd)

NOTES

- *An adverse trend is an increasing leakrate over four successive tests, or an increase of 0.10 gpm in two successive tests over the previous trend.*
  Example: Previous leakrate was 0.05 gpm and the next two are 0.15 gpm - a level 2 Leak Investigation is required.
- *With RCS Gross Leakage greater than 1.0 gpm, an RCS leak evaluation using 4-OSP-041.2, RCS Visual Leak Inspection and Leak Evaluation, along with a Safety Evaluation to ensure the plant remains within the design basis, is required to continue operation of the unit. [Commitment - Steps 2.3.1, 2.3.2, 2.3.5 and 2.3.6.]*
- *Charging pump leakage is not a component of RCS leakage. The RCS leakage calculation excludes measured charging pump packing leakage.*

6 16. Determine if a Reactor Coolant System Leak Investigation is required using the below table:

Reactor Coolant System Leak Investigation Table			
Level Required	**Gross**	**Identified**	**Unidentified**
1	Increase of 0.05 gpm from previous leakrate		
			> 0.05 gpm
2	N/A	Greater than 0.2 gpm	Greater than 0.15 gpm
	Adverse trend (see notes above)		
3	N/A	Greater than 0.5 gpm	

[Commitment - Steps 2.3.5 and 2.3.6]

6 17. **IF** required, **THEN** perform a Reactor Coolant System Leak Investigation using Attachment 5.

NOTE

In order to take credit for the Non-Reactor Coolant Pressure Boundary Leakage, the leakage from components associated with this category must be validated during the same time frame that the RCS leak rate calculation is being performed. Otherwise, any Gross Leakage that is NOT Identified Leakage must be considered to be Unidentified Leakage.

6 18. **IF** a Level 2 Investigation is performed, **THEN** subtract Attachments 4 and 6 results from the unidentified RCS leak rate values of Attachment 1, 2, and 3.

INITIALS
CK'D VERIF

7.1.2 (Cont'd)

6 19. Record the RCS leak rates (gross, identified, and unidentified) obtained from Attachment 1, 2, or 3, as applicable, and charging pump packing leakage from Attachment 4, and Non-RCPB leakage (other than charging pump packing leakage) from Attachment 6, if performed, in the Unit Narrative Log.

6 20. Record results of any leak investigation performed in the Unit Narrative Log.

21. **IF** Acceptance Criteria is Unsatisfactory, **THEN** perform the following:

____ a. Refer to applicable Tech Specs.

____ b. Go to 4-ONOP-041.3, Excessive Reactor Coolant System Leakage.

Date/Time Completed:_____/_____

REMARKS: _____

PERFORMED BY (Print)	INITIALS	VERIFIED BY (Print)	INITIALS

Reviewed By: _____ DATE: _____
Shift Manager or SRO Designee

END OF TEXT

Facility:	Turkey Point	Task No:	1062009100
Task Title:	Review Safety Injection Attachments Prior to Mode Change	JPM No:	S.A.1.b
K/A Reference:	2.1.29 SRO 4.0		
Examinee:		NRC Examiner:	
Facility Evaluator:		Date:	

Method of testing:

Simulated Performance X Actual Performance

Classroom X Simulator Plant

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- Unit 3 is in MODE 4 325° F making preparations for mode ascension to MODE 3.
- 3-GOP-503, Cold Shutdown to Hot Standby is in progress at step 5.25.10.
- Unit 4 is in MODE 6.
- Unit 4 Core offload is in progress
- Unit 4 RWST level is 20K gal.
- All other equipment is OPERABLE.

Task Standard:

- Examinee identifies five valves that preclude the Unit 4 HHSI pumps from being aligned to the Unit 3 (OPERABLE) RWST.

Required Materials:

- 3-GOP-503, Cold Shutdown to Hot Standby
- 3-NOP-062, Safety Injection
- Technical Specifications

General References:

- 3-GOP-503, Cold Shutdown to Hot Standby
- 3-NOP-062, Safety Injection
- Technical Specifications

Initiating Cue:

- You are the Unit 3 Unit Supervisor. You have been directed to complete step 5.25.10, verify all four (4) HHSI pumps are aligned to an operable RWST by reviewing the 3-NOP-62 Attachments 1 through 3, Safety Injection valve alignments.

Time Critical Task: No

Validation Time: 30 minutes

HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!

SIMULATOR SETUP

Reset to IC #

N/A

Denote critical steps with a check mark(T)

Start Time _____

STEP 1 :	Obtain a copy of 3-GOP-503, Cold Shutdown to Hot Standby and 3-NOP-062, Safety Injection	___ SAT ___ UNSAT
Standard:	Copy of 3-GOP-503, Cold Shutdown to Hot Standby is obtained.	
Cue	Provide a completed copy of 3-GOP-503, Cold Shutdown to Hot Standby page 50 and 97.	
Comment		

STEP 2 : T	Verify all 4 HHSI pumps are aligned to an OPERABLE RWST. (3-GOP-503, Cold Shutdown to Hot Standby Step 5.25.10) (3-NOP-062, Safety Injection Attachments 1 through 3.)	___ SAT ___ UNSAT
Standard:	The Examinee reviews 3-NOP-062, Safety Injection Attachments 1 through 5 and determines the Unit 4 HHSI pumps are NOT aligned to an OPERABLE RWST by noting all the following discrepancies to the evaluator. 1. 4-864C LOCKED OPEN & BACKSEATED 2. 870A CLOSED 3. 870B CLOSED 4. 892A LOCKED CLOSED 5. 892B LOCKED CLOSED	
Cue	Provide a completed copy of 3-NOP-062, Safety Injection Attachments 1 through 3.	
Comment		

Terminating Cue:	**The task is complete when the Examinee returns the cue sheet to the examiner.**	**STOP**

Stop Time _____

Verification of Completion

Job Performance Measure No. S.A.1.b

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Question Documentation:

Question:

_____

_____

_____

_____

_____

Response:

_____

_____

_____

_____

_____

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: _____ _____

Facility:	Turkey Point	Task No:	01094010200
Task Title:	Perform Accident Monitoring Instrumentation Channel Checks	JPM No:	R.A.2
K/A Reference:	2.2.12 RO 3.7		
Examinee:		NRC Examiner:	
Facility Evaluator:		Date:	

Method of testing:

Simulated Performance _____ Actual Performance X

Classroom _____ Simulator _____ Plant X

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 3 and 4 are both Mode 1 100% power.
- No equipment is OOS
- All 4-OSP-204 "Accident Monitoring Instrumentation Channel Checks" prerequisites have been met.

Task Standard:

- Determination that the acceptance criteria for Quadrant 2 Core Exit Thermocouples is NOT met.

Required Materials:

- 4-OSP-204 Accident Monitoring Instrumentation Channel Checks

General References:

- 4-OSP-204 Accident Monitoring Instrumentation Channel Checks

Initiating Cue:

- You are the Unit 4 RCO and have been directed to perform the monthly check of the Core Exit Thermocouples by completing 4-OSP-204 Accident Monitoring Instrumentation Channel Checks section 7.1.10.
- All required data is contained on the JPM BRIEFING SHEET.
- After checking Core Exit Thermocouples, notify the Unit Supervisor of the results of the surveillance.

Time Critical Task: No

Validation Time: 20 minutes

HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!

SIMULATOR SETUP

Reset to IC #

N/A

Denote critical steps with a check mark(T)

Start Time _____

STEP 1 :	Obtain a copy of 4-OSP-204 Accident Monitoring Instrumentation Channel Checks (From initiating cue.)	___ SAT ___ UNSAT
Standard:	Copy of 4-OSP-204 Accident Monitoring Instrumentation Channel Checks is obtained.	
Cue	Provide a copy of 4-OSP-204 Accident Monitoring Instrumentation Channel Checks	
Comment		

NOTE:	XXXX References CETs which are abandoned in accordance with 0-ADM-220, Abandoned Equipment Program.	
STEP 2 :	Check the Core Exit Thermocouples as follows (4-OSP-204 Step 7.1.10)	___ SAT ___ UNSAT
Standard:	Examinee checks the Core Exit Thermocouples by performing substeps 1 through 10.	
Cue		
Comment		

STEP 3 :	Calculate Avg Thot for Channels A and B using the values obtained in Substep 7.1.9.2. (4-OSP-204 Step 7.1.10.1)	___ SAT ___ UNSAT
Standard:	Examinee determines 4-OSP-204 Step 7.1.10.1 is N/A	
Cue		
Comment		
EXAMINER NOTE	N/A if greater than 2 percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 4 :	Record Quadrant One CET Temperatures (4-OSP-204 Step 7.1.10.2.a)	___ SAT ___ UNSAT
Standard:	Examinee records Quadrant One CET Temperatures in 4-OSP-204 Step 7.1.10.2.a	
Comment		
EXAMINER NOTE	See exam key for correct answers.	

STEP 5 :	Check Core Exit Thermocouple readings in Substep 7.1.10.2.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (4-OSP-204 Step 7.1.10.2.b)	___ SAT ___ UNSAT
Standard:	Examinee determines 4-OSP-204 Step 7.1.10.2.b is N/A	
Comment		
EXAMINER NOTE	N/A if greater than 2 percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 6 :	Check Core Exit Thermocouple readings in Substep 7.1.10.2.a are between 545 and 650 degrees. (4-OSP-204 Step 7.1.10.2.c)	___ SAT ___ UNSAT
Standard:	Examinee checks Core Exit Thermocouple readings in Substep 7.1.10.2.a are between 545 and 650 degrees.	
Comment		
EXAMINER NOTE	N/A if less than two (2) percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 7 : $\bar{T}$	Check to ensure at least four (4) Total CETs in Quadrant One meet acceptance criteria of Substep 7.1.10.2.b or 7.1.10.2.c. (4-OSP-204 Step 7.1.10.2.d)	___ SAT ___ UNSAT
Standard:	Examinee checks at least four (4) Total CETs in Quadrant One meet acceptance criteria of indicating between 545 and 650 degrees.	
Comment		

Note:	** Core energy distribution analysis suggests that Unit 4 QSPDS Channel A, Quadrant 3, Core Location E10, is swapped with QSPDS Channel B, Quadrant 2, Core Location G01. Therefore, for purposes of T.S. 3.3.3.3, Table 3.3-5, Item 14, and 0-ADM-536 3/4.3.3.3, failure of either CET E10 or CET G01 should conservatively be evaluated as failure of both CET E10 and CET G01.	
STEP 8 :	Record Quadrant Two CET Temperatures (4-OSP-204 Step 7.1.10.3.a)	____ SAT ____ UNSAT
Standard:	Examinee records Quadrant Two CET Temperatures in 4-OSP-204 Step 7.1.10.3.a	
Comment		
EXAMINER NOTE	See exam key for correct answers.	

STEP 9 :	Check Core Exit Thermocouple readings in Substep 7.1.10.2.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (4-OSP-204 Step 7.1.10.3.b)	____ SAT ____ UNSAT
Standard:	Examinee determines 4-OSP-204 Step 7.1.10.3.b is N/A	
Comment		
EXAMINER NOTE	N/A if greater than 2 percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 10 : $\bar{T}$	Check Core Exit Thermocouple readings in Substep 7.1.10.2.a are between 545 and 650 degrees. (4-OSP-204 Step 7.1.10.3.c)	____ SAT ____ UNSAT
Standard:	Examinee checks Core Exit Thermocouple readings in Substep 7.1.10.3.a are **NOT** between 545 and 650 degrees.	
Comment		
EXAMINER NOTE	N/A if less than two (2) percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 11 : $\bar{T}$	Check to ensure at least four (4) Total CETs in Quadrant Two meet acceptance criteria of Substep 7.1.10.3.b or 7.1.10.3.c. (4-OSP-204 Step 7.1.10.3.d)	____ SAT ____ UNSAT
Standard:	Examinee checks at least four (4) Total CETs in Quadrant Two DO **NOT** meet acceptance criteria of indicating between 545 and 650 degrees.	
Comment		
Cue	If the Examinee stops the performance of the surveillance to address administrative functions, (generating a PWO etc…) acknowledge the communication and inform the Examinee "Complete the remaining portions of the surveillance."	

Note:	** Core energy distribution analysis suggests that Unit 4 QSPDS Channel A, Quadrant 3, Core Location E10, is swapped with QSPDS Channel B, Quadrant 2, Core Location G01. Therefore, for purposes of T.S. 3.3.3.3, Table 3.3-5, Item 14, and 0-ADM-536 3/4.3.3.3, failure of either CET E10 or CET G01 should conservatively be evaluated as failure of both CET E10 and CET G01.	
STEP 12 :	Record Quadrant Three CET Temperatures (4-OSP-204 Step 7.1.10.4.a)	____ SAT ____ UNSAT
Standard:	Examinee records Quadrant Three CET Temperatures in 4-OSP-204 Step 7.1.10.4.a	
Comment		
EXAMINER NOTE	See exam key for correct answers.	

STEP 13 :	Check Core Exit Thermocouple readings in Substep 7.1.10.4.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (4-OSP-204 Step 7.1.10.4.b)	____ SAT ____ UNSAT
Standard:	Examinee determines 4-OSP-204 Step 7.1.10.4.b is N/A	
Comment		
EXAMINER NOTE	N/A if greater than 2 percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 14 :	Check Core Exit Thermocouple readings in Substep 7.1.10.4.a are between 545 and 650 degrees. (4-OSP-204 Step 7.1.10.4.c)	____ SAT ____ UNSAT
Standard:	Examinee checks Core Exit Thermocouple readings in Substep 7.1.10.4.a are between 545 and 650 degrees.	
Comment		
EXAMINER NOTE	N/A if less than two (2) percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 15 : $\bar{T}$	Check to ensure at least four (4) Total CETs in Quadrant Three meet acceptance criteria of Substep 7.1.10.4.b or 7.1.10.4.c. (4-OSP-204 Step 7.1.10.4.d)	____ SAT ____ UNSAT
Standard:	Examinee checks at least four (4) Total CETs in Quadrant Three meet acceptance criteria of indicating between 545 and 650 degrees.	
Comment		

STEP 16 :	Record Quadrant Four CET Temperatures (4-OSP-204 Step 7.1.10.5.a)	____ SAT ____ UNSAT
Standard:	Examinee records Quadrant Four CET Temperatures in 4-OSP-204 Step 7.1.10.5.a	
Comment		
EXAMINER NOTE	See exam key for correct answers.	

STEP 17 :	Check Core Exit Thermocouple readings in Substep 7.1.10.3.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (4-OSP-204 Step 7.1.10.5.b)	____ SAT ____ UNSAT
Standard:	Examinee determines 4-OSP-204 Step 7.1.10.5.b is N/A	
Comment		
EXAMINER NOTE	N/A if greater than 2 percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 18 :	Check Core Exit Thermocouple readings in Substep 7.1.10.5.a are between 545 and 650 degrees. (4-OSP-204 Step 7.1.10.5.c)	____ SAT ____ UNSAT
Standard:	Examinee checks Core Exit Thermocouple readings in Substep 7.1.10.5.a are between 545 and 650 degrees.	
Comment		
EXAMINER NOTE	N/A if less than two (2) percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 19 : $\bar{T}$	Check to ensure at least four (4) Total CETs in Quadrant Four meet acceptance criteria of Substep 7.1.10.5.b or 7.1.10.5.c. (4-OSP-204 Step 7.1.10.5.d)	____ SAT ____ UNSAT
Standard:	Examinee checks at least four (4) Total CETs in Quadrant Four meet acceptance criteria of indicating between 545 and 650 degrees.	
Comment		

STEP 20 :	IF a PWO is to be generated for a QSPDS readout, THEN use Enclosure 2 to determine the proper Temperature Element number to be referenced on the PWO for the given location. (4-OSP-204 Step 7.1.10.6)	____ SAT ____ UNSAT
Standard:	Examinee addresses generating a PWO for the out of range CET's and identifying the respective temperature elements.	
Comment		
Cue	If asked provide the following cue, "Another Operator will generate a PWO for CET's M3, G2, E4, D3, and G6."	

STEP 21 :	IF any Out-of-Service CET is not documented in accordance with Enclosure 1, THEN document the Out-of-Service CET in accordance with Enclosure 1. (4-OSP-204 Step 7.1.10.7)	____ SAT ____ UNSAT
Standard:	Examinee addresses documenting out of service CET's in accordance with Enclosure 1.	
Comment		
Cue	If asked provide the following cue, "Another Operator will document the Out-of-Service entries for CET's (M3, G2, E4, D3, and G6) in accordance with Enclosure 1."	

STEP 22 :	Record the following representative CET temperatures (4-OSP-204 Step 7.1.10.8.a & b)	____ SAT ____ UNSAT
Standard:	Examinee records Channel A and B representative CET temperatures in 4-OSP-204 Step 7.1.10.8 a & b	
Comment		
EXAMINER NOTE	See exam key for correct answers.	

STEP 23 :	Check representative CET temperature readings to be between 545 and 650 °F (4-OSP-204 Step 7.1.10.8.c)	___ SAT ___ UNSAT
Standard:	Examinee checks Channel A and B representative CET temperature readings to be between 545 and 650 °F	
Comment		
EXAMINER NOTE	N/A if less than two (2) percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 24 :	Record the following CET Subcooling temperatures: (4-OSP-204 Step 7.1.10.9)	___ SAT ___ UNSAT
Standard:	Examinee records Channel A and B CET Subcooling temperatures in 4-OSP-204 Step 7.1.10.9 a & b and reactor Power in Step 7.1.10.9.c	
Comment		
EXAMINER NOTE	See exam key for correct answers.	

STEP 25 :	Check CET Subcooling Temperatures for each Channel to be in the appropriate acceptance range for the current reactor power: (4-OSP-204 Step 7.1.10.9.d)	___ SAT ___ UNSAT
Standard:	Examinee checks Channel A and B CET Subcooling Temperatures to be between 5 and 30 degrees	
Comment		

Terminating Cue:	**The task is complete when the Examinee checks Core Exit Thermocouples using 4-OSP-204 Accident Monitoring Instrumentation Channel Checks section 7.1.10 and informs the Unit Supervisor of the results.**	**STOP**

Stop Time _____

Verification of Completion

Job Performance Measure No. R.A.2

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Question Documentation:

Question:

_____

_____

_____

_____

_____

Response:

_____

_____

_____

_____

_____

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: _____ _____

JPM BRIEFING SHEET

The examiner 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:

Initial Conditions:

- Unit 3 and 4 are both Mode 1 100% power.
- No equipment is OOS
- All 4-OSP-204 "Accident Monitoring Instrumentation Channel Checks" prerequisites have been met.

INITIATING CUE:

- You are the Unit 4 RCO and have been directed to perform the monthly check of the Core Exit Thermocouples by completing 4-OSP-204 Accident Monitoring Instrumentation Channel Checks section 7.1.10.

- After checking Core Exit Thermocouples, notify the Unit Supervisor of the results of the surveillance.

QUADRANT 1			
CET	Channel A	CET	Channel B
P7	563	R7	621
N11	601	P8	610
N10	620	N6	600
N8	618	N4	573
L6	616	M11	623
K8	615	M9	621
		L8	604

QUADRANT 2			
CET	Channel A	CET	Channel B
M3	542	K5	XXXX
H5	604	K3	XXXX
H3	XXXX	J2	XXXX
G2	544	G6	651
E4	652	G1	615
D3	536	F5	618
		F3	XXXX

QUADRANT 3			
CET	Channel A	CET	Channel B
G8	612	H8	606
E10	558	F9	XXXX
D5	615	E8	603
C12	568	B10	600
C8	621	B5	563
A8	562		

QUADRANT 4			
CET	Channel A	CET	Channel B
L14	577	K11	615
L12	619	H15	564
J12	621	H13	623
J10	621	H9	602
H11	604	E14	567
G15	561	E12	614
F13	621		
F11	609		

	Channel A	Channel B
Representative CET Temp	642	644
CET Subcooling temperatures:	12	10

Acknowledge to the examiner when you are ready to begin.

HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.

R A.2 KEY

INIT

NOTE

XXXX References CETs which are abandoned in accordance with 0-ADM-220, Abandoned Equipment Program.

7.1.10 Check the Core Exit Thermocouples as follows:

____ 1. Calculate Avg Thot for Channels A and B using the values obtained in Substep 7.1.9.2. (N/A if greater than 2 percent power.)

_____ + _____ + _____ = _____
Substep 7.1.9.2.a Substep 7.1.9.2.b Substep 7.1.9.2.c Sum Ch A Temp

_____ ÷ _____ = _____
Sum Ch A Temps Number Loops Channel A Average Thot

_____ + _____ + _____ = _____
Substep 7.1.9.2.a Substep 7.1.9.2.b Substep 7.1.9.2.c Sum Ch B Temp

_____ ÷ _____ = _____
Sum Ch B Temps Number Loops Channel B Average Thot

2. Record Quadrant One CET Temperatures:

____ a.

	Channel A		Channel B
P7	563	R7	621
N11	601	P8	610
N10	620	N6	600
N8	618	N4	573
L6	616	M11	623
K8	615	M9	621
		L8	604

____ b. Check Core Exit Thermocouple readings in Substep 7.1.10.2.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (N/A if greater than two (2) percent power.)

____ c. Check Core Exit Thermocouple readings in Substep 7.1.10.2.a are between 545 and 650 degrees. (N/A if less than two (2) percent power.)

____ d. Check to ensure at least four (4) Total CETs in Quadrant One meet acceptance criteria of Substep 7.1.10.2.b or 7.1.10.2.c.

TRAINING ONLY

INIT

7.1.10 (Cont'd)

3. Record Quadrant Two CET Temperatures:

___ a.

Channel A		Channel B	
M3	542	K5	XXXX
H5	604	K3	XXXX
H3	XXXX	J2	XXXX
G2	544	G6	651
E4	652	** G1	615
D3	536	F5	618
		F3	XXXX

___ b. Check Core Exit Thermocouple readings in Substep 7.1.10.3.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (N/A if greater than 2 percent power.)

___ c. Check Core Exit Thermocouple readings in Substep 7.1.10.3.a are between 545 and 650 degrees. (N/A if less than 2 percent power.)

___ d. Check to ensure at least four Total CETs in Quadrant Two meet acceptance criteria of Substep 7.1.10.3.b or 7.1.10.3.c.

4. Record Quadrant Three CET Temperatures:

___ a.

Channel A		Channel B	
G8	612	H8	606
** E10	558	F9	XXXX
D5	615	E8	603
C12	568	B10	600
C8	621	B5	563
A8	562		

___ b. Check Core Exit Thermocouple readings in Substep 7.1.10.4.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (N/A if greater than 2 percent power.)

___ c. Check Core Exit Thermocouple readings in Substep 7.1.10.4.a are between 545 and 650 degrees. (N/A if less than 2 percent power.)

___ d. Check to ensure at least four Total CETs in Quadrant Three meet acceptance criteria of Substep 7.1.10.4.b or 7.1.10.4.c.

** Core energy distribution analysis suggests that Unit 4 QSPDS Channel A, Quadrant 3, Core Location E10, is swapped with QSPDS Channel B, Quadrant 2, Core Location G01. Therefore, for purposes of T.S. 3.3.3.3, Table 3.3-5, Item 14, and 0-ADM-536 3/4.3.3.3, failure of **either** CET E10 or CET G01 should conservatively be evaluated as failure of **both** CET E10 and CET G01.

INIT

7.1.10 (Cont'd)

5. Record Quadrant Four CET Temperatures:

a. Channel A / Channel B

Channel A		Channel B	
L14	577	K11	615
L12	619	H15	564
J12	621	H13	623
J10	621	H9	662
H11	604	E14	567
G15	561	E12	614
F13	621		
F11	609		

b. Check Core Exit Thermocouple readings in Substep 7.1.10.5.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (N/A if greater than 2 percent power.)

c. Check Core Exit Thermocouple readings in Substep 7.1.10.5.a are between 545 and 650 degrees. (N/A if less than 2 percent power.)

d. Check to ensure at least four Total CETs in Quadrant Four meet acceptance criteria of Substep 7.1.10.5.b or 7.1.10.5.c.

6. **IF** a PWO is to be generated for a QSPDS readout, **THEN** use Enclosure 2 to determine the proper Temperature Element number to be referenced on the PWO for the given location.

7. **IF** any Out-of-Service CET is not documented in accordance with Enclosure 1, **THEN** document the Out-of-Service CET in accordance with Enclosure 1.

8. Record the following representative CET temperatures:

a. Channel A 642

b. Channel B 644

c. Check representative CET temperature readings to be between 545 and 650 °F (N/A if reactor power is less than 2%).

(1) Channel A

(2) Channel B

9. Record the following CET Subcooling temperatures:

a. Channel A 12

b. Channel B 10

c. Record current Reactor Power 160

Florida Power & Light Company

Turkey Point Nuclear Plant

Unit 4

This procedure may be affected by an O.T.S.C. (On The Spot Change) verify information prior to use.
Date verified_____ Initials_____

4-OSP-204

Title:

Accident Monitoring Instrumentation Channel Checks

(Continuous Use)

Safety Related Procedure

Responsible Department:	Operations
Revision Approval Date:	12/11/08

PCR *08-1305, 08-4225, 08-5790*
RTSs *93-0241P, 93-0310P, 94-0803P, 95-0285P, 95-1235P, 96-0401, 97-0413P, 97-0992, 98-0446, 98-0861P, 99-1050P, 01-0204P, 02–0012P, 02-0259P, 02-0605P, 03-0864P, 05-0095P, 05-0507, 05-0517, 06-1002, 06-1053, 07-0176P, 08-0489*
OTSCs *4645, 8353, 8419, 0412-93, 0509-94, 0760-94, 0048-95, 0684-97, 0764-97, 0417-99, 0471-00, 0402-01, 0143-03, 0467-03, 0144-07*
PC/Ms *92-031, 92-158, 93-100, 96-033, 97-041, 02-004, 05-060, 03-109, 01-049*

W97:HEB/mrg/nw/ln

LIST OF EFFECTIVE PAGES

Page	Revision Date
1	12/11/08
2	12/11/08
3	08/10/07
4	06/01/05
5	12/11/08
6	12/11/08
7	08/10/07
8	06/01/05
9	11/17/08
10	12/11/08
11	05/06/08
12	05/06/08
13	06/01/05
14	12/11/08
15	06/01/05
16	08/10/07
17	12/11/08
18	08/10/07
19	05/06/08
20	05/06/08

TABLE OF CONTENTS

	Section	Page
1.0	**PURPOSE**	4
2.0	**REFERENCES/RECORDS REQUIRED/ COMMITMENT DOCUMENTS**	4
3.0	**PREREQUISITES**	7
4.0	**PRECAUTIONS/LIMITATIONS**	7
5.0	**SPECIAL TOOLS/EQUIPMENT**	7
6.0	**ACCEPTANCE CRITERIA**	7
7.0	**PROCEDURE**	
	7.1 Accident Monitoring Instrumentation Channel Check	8
	7.2 QSPDS Health Check	17
	ENCLOSURES	
	Enclosure 1	
	QSPDS CET/RVLIS Sensors Out-Of-Service	18
	Enclosure 2	
	Temperature Element Descriptions and Locations	19

1.0 PURPOSE

1.1 This surveillance procedure provides instructional guidance for performing channel checks on the Accident Monitoring Instrumentation System. This surveillance procedure satisfies the requirements of Reference 2.1.1.

2.0 REFERENCES/RECORDS REQUIRED/COMMITMENT DOCUMENTS

2.1 References

2.1.1 Technical Specifications

1. Table 3.3-5, Accident Monitoring Instrumentation

a. Item 1, Containment Pressure (Wide Range)

b. Item 2, Containment Pressure (Narrow Range)

c. Item 3, Reactor Coolant Outlet Temperature - T_{hot} (Wide Range)

d. Item 4, Reactor Coolant Inlet Temperature – T_{cold} (Wide Range)

e. Item 5, Reactor Coolant Pressure (Wide Range)

f. Item 8, RCS Subcooling Margin Monitor

g. Item 9, PORV Position Indicator

h. Item 10, PORV Block Valve Position Indicator

i. Item 11, Safety Valve Position Indicator

j Item 12, Containment Water Level (Narrow Range)

k. Item 13, Containment Water Level (Wide Range)

l Item 14, Incore Thermocouples

m. Item 15, Containment High Range Area Radiation Monitoring

n. Item 16, Reactor Vessel Level Monitoring System

2.1.1 (Cont'd)

2. Table 4.3-4, Accident Monitoring Instrumentation Surveillance Requirements
   a. Item 1, Containment Pressure (Wide Range)
   b. Item 2, Containment Pressure (Narrow Range)
   c. Item 3, Reactor Coolant Outlet Temperature – T_{hot} (Wide Range)
   d. Item 4, Reactor Coolant Inlet Temperature – T_{cold} (Wide Range)
   e. Item 5, Reactor Coolant Pressure (Wide Range)
   f. Item 8, Reactor Coolant Subcooling Margin Monitor
   g. Item 9, PORV Position Indicator
   h. Item 10, PORV Block Valve Position Indicator
   i. Item 11, Safety Valve Position Indicator
   j. Item 12, Containment Water Level (Wide Range)
   k. Item 13, Containment Water Level (Narrow Range)
   l. Item 14, Incore Thermocouples
   m. Item 15, Containment High Range Area Radiation Monitoring
   n. Item 16, Reactor Vessel Level Monitoring System

2.1.2 FSAR

1. Section 7.0, Instrumentation and Controls

2.1.3 Procedures

1. 0-ADM-220, Abandoned Equipment Program
2. 4-ONOP-094, Alternate Methods for Post Accident Monitoring

2.1.4 Regulatory Guidelines

1. Regulatory Guide 1.97, Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Condition During and Following an Accident
2. NUREG 0737, Clarification of TMI Action Plan Requirements

2.1.5 Miscellaneous Documents (i.e., PC/M, Correspondence)

1. PTN-TECH-85-001
2. PTN-TECH-90-329
3. PTN-TECH 94-185
4. PC/M 92-031, Annunciator Window Engraving Drawings for Human Factors Engineering

2.1.4 (Cont'd)

5. PC/M 92-158, Deletion of Defective Sensor #1, HJTC, Ch A (TE-4-6493)
6. PC/M 93-100, Deletion of Defective Sensor #4, HJTC, Ch A (TE-4-6496)
7. PC/M 94-103, Deletion of Defective Sensor #6, HJTC, Ch A (TE-4-6498)
8. PC/M 96-033, Reactor Vessel Level Indication Repair (TE-4-6499)
9. PC/M 97-041, U-4 Core Exit Thermocouple Column Removal
10. PTN-ENG-SENS-97-088, Rev. 0; Engineering Evaluation Related to Pre–Planned Alternative Monitoring for CNTMT High Range Radiation Monitors.
11. PTN-ENG-SEIS-97-041, Rev. 0; Safety Evaluation for the Abandonment or Restoration of Core Exit Thermocouples
12. PC/M 02-004, Core Exit Thermocouple Installation Via the In-Core System Flux Thimble for Locations H1 and M3
13. PC/M 04-113, Emergency Response Data Acquisition and Display (ERDADS) Replacement.
14. PTN-ENG-SEIJ-07-028, Rev. 0; Determination of Acceptance Criteria for CET Temperature Saturation Margin for use in Chemical Check Procedures 4-OSP-204 and 3-OSP-204 for PTN 3 and PTN 4.
15. PC/M 03-109, Qualified Safety Parameter Display System (QSPDS) Replacement

2.2 Records Required

2.2.1 The date, time and section completed shall be entered in the Unit Narrative Log. Also, problems encountered while performing the procedure should be entered; i.e., malfunctioning equipment, delays due to changes in plant conditions, etc.

2.2.2 Completed copies of the below listed items document compliance with Technical Specification surveillance requirements and shall be transmitted to QA Records for retention in accordance with Quality Assurance Records Program requirements:

1. Section 7.0

2.3 Commitment Documents

2.3.1 None

3.0 PREREQUISITES

3.1 Personnel who will perform this procedure have reviewed it and understand their responsibilities.

3.2 Reactor Coolant Pumps A and B shall either both be running or both be off to perform Step 7.1.9, Check of the RCS Subcooled Margin Monitor.

4.0 PRECAUTIONS/LIMITATIONS

4.1 The Shift Manager shall be notified immediately if any acceptance criteria is not met or any malfunction or any abnormal conditions occur. This information shall also be recorded in the Remarks Section.

4.2 If a PWO is to be generated for a QSPDS readout, Enclosure 2 shall be used to determine the proper Temperature Element number to be referenced on the PWO for the given location.

5.0 SPECIAL TOOLS/EQUIPMENT

5.1 None

6.0 ACCEPTANCE CRITERIA

6.1 The acceptance criteria is shown in Section 7.0.

7.0 PROCEDURE

INIT Date/Time Started: _____/_____

7.1 Accident Monitoring Instrumentation Channel Check

7.1.1 Check the PORV Position Indicator as follows:

____ 1. PORV PCV-4-456, Green indicating light ON.

____ 2. PORV PCV-4-455C, Green indicating light ON.

____ 3. A 2/1, PORV/SAFETY VALVE OPEN, not ON.

____ 4. A 7/2, PZR PORV HI TEMP, not ON.

7.1.2 Check the PORV Block Valve Indicator as follows:

____ 1. PRZ Relief Stop Valve, MOV-4-536, Red indicating light ON.

____ 2. PZR Relief Stop Valve, MOV-4-535, Red indicating light ON.

7.1.3 Check the Safety Valve Position Indicator as follows:

____ 1. A 2/1, PORV/SAFETY VALVE OPEN, not ON.

____ 2. Depress the Test Switch on the Unit 4 Pressurizer Safety Valve Acoustic Monitoring System **AND** check that Annunciator A 2/1, PORV/SAFETY VALVE OPEN actuates.

____ 3. Release the Test Switch **AND** reset Annunciator A 2/1, PORV/SAFETY VALVE OPEN.

____ 4. Check Pressurizer Safety Relief TI-4-465 on VPA to be less than 200 degrees.

7.1.4 Check the Containment Pressure (Wide Range) indication as follows:

1. Record Channel A PI-4-6306A _____ psig

2. Record Channel B PI-4-6306B _____ psig

____ 3. Check the difference between PI-4-6306A and PI-4-6306B to be less than 7.5 psig.

7.1.5 Check the Containment Pressure (Narrow Range) indication as follows:

1. Record Channel A PI-4-6425A _____ psig

2. Record Channel B PI-4-6425B _____ psig

____ 3. Check the difference between PI-4-6425A and PI-4-6425B to be less than 1.0 psig.

INIT

7.1.6 Check the Containment Water Level Monitor (Wide Range) as follows:

1. Record Channel A LI-4-6309A _____ inches
2. Record Channel B LI-4-6309B _____ inches

____ 3. Check the difference between LI-4-6309A and LI-4-6309B to be less than 3.0 inches.

7.1.7 Check the Containment Water Level Monitor (Narrow Range) as follows:

1. Record Channel A LI-4-6308A _____ inches
2. Record Channel B LI-4-6308B _____ inches

____ 3. Check the difference between LI-4-6308A and LI-4-6308B to be less than 15.0 inches.

NOTE

The following test will cause the DCS DEGRADED CONTAINMENT (NOT EQ) CONDITION to change from NORMAL to ALARM.

7.1.8 Test the Containment High Range Area Radiation Monitoring by performing the following:

1. Turn **AND** hold the Function Selector switch for Channel A in CHECK.

____ 2. **WHEN** the Trip 2 Alarm actuates **AND** meter indications stabilize, **THEN** record the following readings:

   a. RI-4-6311A (QR81) _____
   b. RI-4-6311A (VPC) _____
   c. RAR-4-6311A _____

____ 3. Release the Function Selector switch.

____ 4. Turn **AND** hold the Function Selector switch for Channel B in CHECK.

____ 5. **WHEN** the Trip 2 Alarm actuates **AND** meter indications stabilize, **THEN** record the following readings:

   a. RI-4-6311B (QR82) _____
   b. RI-4-6311B (VPC) _____
   c. RAR-4-6311B _____

____ 6. Release the Function Selector switch.

____ 7. Depress the Trip 1 **AND** Trip 2 Alarm pushbuttons to extinguish the lights.

____ 8. Verify that the Function Selector switch is in OPERATE **AND** the operate light is ON.

INIT

7.1.8 (Cont'd)

____ 9. Check that the maximum deviation between channels to be less than 0.5 decades.

____ 10. Reset the Degraded Containment function on DCS by touching the Operator Reset of Degraded Containment - RESET button on the Degraded Containment screen on the DCS.

____ 11. **IF** CHRRMS channel check test is not successful, **THEN** go to 4-ONOP-094, Alternate Methods for Containment Post Accident Monitoring.

NOTES

- *One Subcooled Margin Monitor Channel consists of one RCS pressure input, two hot leg temperature inputs and two cold leg temperature inputs.*
- *The Subcooled Margin Monitor (SSM) remains Operable with the loss of one hot leg temperature input, or the loss of one cold leg temperature input, or the loss of both one hot leg and one cold leg temperature input. The SSM calculated value is valid, although it will display POOR with black type on cyan background.*
- *Reactor Coolant Pumps A and B shall either both be running or both be off to perform Step 7.1.9.*
- *Indications recorded below are obtained from the respective QSPDS display.*

7.1.9 Check the RCS Subcooled Margin Monitor as follows:

		Channel A	Channel B
____	1. Record Reactor Coolant System Pressure	_____	_____
	2. Record the following RCS Loop Temperatures:		
____	a. Hot Leg A Temperature	_____	_____
____	b. Hot Leg B Temperature	_____	_____
____	c. Hot Leg C Temperature	_____	_____
____	d. Cold Leg A Temperature	_____	_____
____	e. Cold Leg B Temperature	_____	_____
____	f. Cold Leg C Temperature	_____	_____
____	3. Check the difference between Channel A and Channel B in Substep 7.1.9.1 to be less than 42 psig.		
____	4. Check the difference between Channel A and Channel B in Substep 7.1.9.2 to be less than 9.0 degrees.		
____	5. Record the following RCS subcooling temperatures:		
____	a. RCS Saturation Margin from the Core Summary page	_____	_____
____	6. Check the difference between Channel A and Channel B in Substep 7.1.9.5 to be less than 5.0 degrees.		

INIT

NOTE

XXXX References CETs which are abandoned in accordance with 0-ADM-220, Abandoned Equipment Program.

7.1.10 Check the Core Exit Thermocouples as follows:

____ 1. Calculate Avg Thot for Channels A and B using the values obtained in Substep 7.1.9.2. (N/A if greater than 2 percent power.)

_____ + _____ + _____ = _____
Substep 7.1.9.2.a Substep 7.1.9.2.b Substep 7.1.9.2.c Sum Ch A Temp

_____ ÷ _____ = _____
Sum Ch A Temps Number Loops Channel A Average Thot

_____ + _____ + _____ = _____
Substep 7.1.9.2.a Substep 7.1.9.2.b Substep 7.1.9.2.c Sum Ch B Temp

_____ ÷ _____ = _____
Sum Ch B Temps Number Loops Channel B Average Thot

2. Record Quadrant One CET Temperatures:

____ a.

Channel A		Channel B	
P7	_____	R7	_____
N11	_____	P8	_____
N10	_____	N6	_____
N8	_____	N4	_____
L6	_____	M11	_____
K8	_____	M9	_____
		L8	_____

____ b. Check Core Exit Thermocouple readings in Substep 7.1.10.2.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (N/A if greater than two (2) percent power.)

____ c. Check Core Exit Thermocouple readings in Substep 7.1.10.2.a are between 545 and 650 degrees. (N/A if less than two (2) percent power.)

____ d. Check to ensure at least four (4) Total CETs in Quadrant One meet acceptance criteria of Substep 7.1.10.2.b or 7.1.10.2.c.

INIT

7.1.10 (Cont'd)

3. Record Quadrant Two CET Temperatures:

____ a.

	Channel A		Channel B
M3	_____	K5	XXXX
H5	_____	K3	XXXX
H3	XXXX	J2	XXXX
G2	_____	G6	_____
E4	_____	** G1	_____
D3	_____	F5	_____
		F3	XXXX

____ b. Check Core Exit Thermocouple readings in Substep 7.1.10.3.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (N/A if greater than 2 percent power.)

____ c. Check Core Exit Thermocouple readings in Substep 7.1.10.3.a are between 545 and 650 degrees. (N/A if less than 2 percent power.)

____ d. Check to ensure at least four Total CETs in Quadrant Two meet acceptance criteria of Substep 7.1.10.3.b or 7.1.10.3.c.

4. Record Quadrant Three CET Temperatures:

____ a.

	Channel A		Channel B
G8	_____	H8	_____
** E10	_____	F9	XXXX
D5	_____	E8	_____
C12	_____	B10	_____
C8	_____	B5	_____
A8	_____		

____ b. Check Core Exit Thermocouple readings in Substep 7.1.10.4.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (N/A if greater than 2 percent power.)

____ c. Check Core Exit Thermocouple readings in Substep 7.1.10.4.a are between 545 and 650 degrees. (N/A if less than 2 percent power.)

____ d. Check to ensure at least four Total CETs in Quadrant Three meet acceptance criteria of Substep 7.1.10.4.b or 7.1.10.4.c.

** Core energy distribution analysis suggests that Unit 4 QSPDS Channel A, Quadrant 3, Core Location E10, is swapped with QSPDS Channel B, Quadrant 2, Core Location G01. Therefore, for purposes of T.S. 3.3.3.3, Table 3.3-5, Item 14, and 0-ADM-536 3/4.3.3.3, failure of **either** CET E10 or CET G01 should conservatively be evaluated as failure of **both** CET E10 and CET G01.

INIT

7.1.10 (Cont'd)

5. Record Quadrant Four CET Temperatures:

____ a. Channel A / Channel B

Channel A		Channel B	
L14	_____	K11	_____
L12	_____	H15	_____
J12	_____	H13	_____
J10	_____	H9	_____
H11	_____	E14	_____
G15	_____	E12	_____
F13	_____		
F11	_____		

____ b. Check Core Exit Thermocouple readings in Substep 7.1.10.5.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (N/A if greater than 2 percent power.)

____ c. Check Core Exit Thermocouple readings in Substep 7.1.10.5.a are between 545 and 650 degrees. (N/A if less than 2 percent power.)

____ d. Check to ensure at least four Total CETs in Quadrant Four meet acceptance criteria of Substep 7.1.10.5.b or 7.1.10.5.c.

____ 6. **IF** a PWO is to be generated for a QSPDS readout, **THEN** use Enclosure 2 to determine the proper Temperature Element number to be referenced on the PWO for the given location.

____ 7. **IF** any Out-of-Service CET is not documented in accordance with Enclosure 1, **THEN** document the Out-of-Service CET in accordance with Enclosure 1.

____ 8. Record the following representative CET temperatures:

a. Channel A _____

b. Channel B _____

c. Check representative CET temperature readings to be between 545 and 650 °F (N/A if reactor power is less than 2%).

____ (1) Channel A

____ (2) Channel B

____ 9. Record the following CET Subcooling temperatures:

a. Channel A _____

b. Channel B _____

c. Record current Reactor Power _____

INIT

7.1.10.9 (Cont'd)

d. Check CET Subcooling Temperatures for each Channel to be in the appropriate acceptance range for the current reactor power:

Current Reactor Power	Acceptance Range
100% steady state	5 °F to 30 °F
Greater than 50% and less than 100%	5 °F to 60°F
Greater than 2% and NOT greater than 50%	45 °F to 115 °F
Less than or equal to 2%	N/A

____ (1) Channel A

____ (2) Channel B

7.1.11 Check the Reactor Vessel Level Monitoring System by performing the following:

____ 1. Record Channel A Thermocouple temperatures:

Location	T_H Heated Thermocouple	T_U Unheated Thermocouple	ΔT Differential Temperature
#1 Head	XXXX °F	XXXX °F	XXXX °F
#2 Head	____ °F	____ °F	____ °F
#3 Plenum	____ °F	____ °F	____ °F
#4 Plenum	____ °F	____ °F	____ °F
#5 Plenum	____ °F	____ °F	____ °F
#6 Plenum	____ °F	____ °F	____ °F
#7 Plenum	____ °F	____ °F	____ °F
#8 Plenum	____ °F	____ °F	____ °F

XXXX - Sensor is abandoned in accordance with 0-ADM-220, Abandoned Equipment Program.

____ 2. Record Channel B Thermocouple temperatures:

Location	T_H Heated Thermocouple	T_U Unheated Thermocouple	ΔT Differential Temperature
#1 Head	____ °F	____ °F	____ °F
#2 Head	____ °F	____ °F	____ °F
#3 Plenum	____ °F	____ °F	____ °F
#4 Plenum	XXXX °F	XXXX °F	XXXX °F
#5 Plenum	____ °F	____ °F	____ °F
#6 Plenum	____ °F	____ °F	____ °F
#7 Plenum	____ °F	____ °F	____ °F
#8 Plenum	____ °F	____ °F	____ °F

XXXX - Sensor is abandoned in accordance with 0-ADM-220, Abandoned Equipment Program.

INIT

7.1.11 (Cont'd)

____ 3. **IF** a PWO is to be generated for a QSPDS readout, **THEN** use Enclosure 2 to determine the proper Temperature Element number to be referenced on the PWO for the given location.

____ 4. **IF** any of Out-of-Service, RVLMS Sensor is not documented in accordance with Enclosure 1, **THEN** document the Out-of-Service RVLMS Sensor in accordance with Enclosure 1.

5. Check acceptance criteria as follows:

____ a. Check Channel A QSPDS display indicates at least four HJTC sensor locations display a HJTC differential temperature of greater than 25°F.

____ b. Check Channel B QSPDS display indicates at least four HJTC sensor locations display a HJTC differential temperature of greater than 25°F.

____ c. **IF** a QSPDS channel acceptance criteria is not met, **THEN** declare the channel inoperable and go to 4-ONOP-094, Alternate Methods for Containment Post Accident Monitoring.

INIT

____ 7.1.12 Ensure log entries specified in Subsection 2.2 are recorded.

____ 7.1.13 Notify the Unit Supervisor of the results of the surveillance **AND** that the surveillance is complete.

REMARKS: _____

_____

_____

_____

_____

_____

_____

Date/Time Completed: _____ / _____

PERFORMED BY (Print)	INITIALS
_____	_____
_____	_____
_____	_____

REVIEWED BY: _____
Shift Manager or SRO Designee

7.2 QSPDS Health Check

INIT CH A	INIT CH B		
____	____	7.2.1	At each QSPDS panel, perform the following:
____	____		1. Check the date and time are updating on the upper right of the screen.
____	____		2. Check the System Health alarm is green
			a. **IF** the System Health alarm is NOT green, **THEN** evaluate the alarm for channel operability.
____	____		3. **IF** either of the above conditions are not met, **THEN** notify the Shift Manager for approval of the identified system status.

Test completed SAT___ UNSAT___

REMARKS: _____

_____

_____

_____

Date/Time Completed:_____/_____

PERFORMED BY (Print) INITIALS

_____ _____

REVIEWED BY: _____
Reactor Operator or Designee

END OF TEXT

ENCLOSURE 1
(Page 1 of 1)
QSPDS CET/RVLIS SENSORS OUT-OF-SERVICE

FPL

Inter-Office Correspondence

TO: **H. H. Johnson** **DATE:** January 23, 1995

FROM: **D.R. Powell** **DEPARTMENT:** PTN-TECH-95-016

SUBJECT: QSPDS CET/RVLIS SENSORS OUT-OF-SERVICE

Reference:
1. Tech. Dept. Memo PTN-TECH-94-058 dated February 28, 1994
2. Tech. Dept. Memo PTN-TECH-93-356 dated December 7, 1993
3. Tech. Dept. Memo PTN-TECH-94-185 dated July 5,1994

The above referenced letters describe the method for resolution of CET and RVLIS sensors which are out of service or are in the process of being removed from service. This letter simplifies the original method and incorporates the activities as defined in 0-ADM-220, Abandoned Equipment Program.

Operations, I&C and Technical Department representatives have agreed to the following method of resolution:

The failed points should be handled with a green tag under the PWO system until such time that the PWO can be worked, typically the refueling outage. When Operations observes a deficiency in a CET or RVLIS indication, a trouble and breakdown PWO shall be originated and a Control Room green tag is placed on the QSPDS display in accordance with the Operations Department Instruction ODI-CO-016. I&C will work the PWO; if the problem appears to be inside containment, then the PWO will be placed in the SNO file and the green tag will be moved to the QSPDS cabinet in the Computer Room. ODI-CO-016 will still track the deficiency, however, the Control Room green tag designation will be changed, and the affected component will be listed in the Out-of-Service Logbook as an outage item. If it is determined that the point will not be repaired during the SNO under the PWO, the trouble and breakdown PWO is to be closed. I&C Maintenance will then initiate actions in accordance with the plant procedure 0-ADM-220 to abandon the equipment in place, and remove the point from the OOS Logbook.

Use of 0-ADM-220 will necessitate that I&C initiate a procedure change to 3/4-OSP-204 to show that the subject point is no longer in service. Implementation of 0-ADM-220 and revision to 3/4-OSP-204 will require review by Technical and Operation Departments; this review will include their decision on whether or not restoration of some points are necessary for compliance with Tech. Spec. operability requirements. When it is determined that points need to be restored, a PWO will be originated and scheduled for that restoration at the next refueling outage.

ENCLOSURE 2
(Page 1 of 2)

TEMPERATURE ELEMENT DESCRIPTIONS AND LOCATIONS A TRAIN QSPDS

Loc	Temp Element	Description
A-8	TE-4-1E	CET for A QSPDS Loc A-8
C-8	TE-4-27E	CET for A QSPDS Loc C-8
C-12	TE-4-28E	CET for A QSPDS Loc C-12
D-3	TE-4-29E	CET for A QSPDS Loc D-3
D-5	TE-4-30E	CET for A QSPDS Loc D-5
E-4	TE-4-4E	CET for A QSPDS Loc E-4
E-10 **	TE-4-32E	CET for A QSPDS Loc E-10
F-11	TE-4-11E	CET for A QSPDS Loc F-11
F-13	TE-4-33E	CET for A QSPDS Loc F-13
G-2	TE-4-34E	CET for A QSPDS Loc G-2
G-8	TE-4-35E	CET for A QSPDS Loc G-8
G-15	TE-4-36E	CET for A QSPDS Loc G-15
H-3	TE-4-37E*	CET for A QSPDS Loc H-3
H-5	TE-4-38E	CET for A QSPDS Loc H-5
H-11	TE-4-40E	CET for A QSPDS Loc H-11
J-10	TE-4-17E	CET for A QSPDS Loc J-10
J-12	TE-4-18E	CET for A QSPDS Loc J-12
K-8	TE-4-21E	CET for A QSPDS Loc K-8
L-6	TE-4-42E	CET for A QSPDS Loc L-6
L-12	TE-4-44E	CET for A QSPDS Loc L-12
L-14	TE-4-45E	CET for A QSPDS Loc L-14
M-3	TE-4-46E	CET for A QSPDS Loc M-3
N-8	TE-4-49E	CET for A QSPDS Loc N-8
N-10	TE-4-50E	CET for A QSPDS Loc N-10
N-11	TE-4-5E	CET for A QSPDS Loc N-11
P-7	TE-4-51E	CET for A QSPDS Loc P-7
#1 HD	TE-4-6493	ICCS THMCPL for A QSPDS #1 Head
#2 HD	TE-4-6494	ICCS THMCPL for A QSPDS #2 Head
#3 PL	TE-4-6495	ICCS THMCPL for A QSPDS Plenum #3
#4 PL	TE-4-6496	ICCS THMCPL for A QSPDS Plenum #4
#5 PL	TE-4-6497	ICCS THMCPL for A QSPDS Plenum #5
#6 PL	TE-4-6498	ICCS THMCPL for A QSPDS Plenum #6
#7 PL	TE-4-6499	ICCS THMCPL for A QSPDS Plenum #7
#8 PL	TE-4-6500	ICCS THMCPL for A QSPDS Plenum #8

* Abandoned Detector Elements
** See footnote on Page 12.

ENCLOSURE 2
(Page 2 of 2)

TEMPERATURE ELEMENT DESCRIPTIONS AND LOCATIONS B TRAIN QSPDS

Loc	Temp Element	Description
B-5	TE-4-2E	CET for B QSPDS Loc B-5
B-10	TE-4-3E	CET for B QSPDS Loc B-10
E-8	TE-4-31E	CET for B QSPDS Loc E-8
E-12	TE-4-6E	CET for B QSPDS Loc E-10
E-14	TE-4-7E	CET for B QSPDS Loc E-14
F-3	TE-4-8E*	CET for B QSPDS Loc F-3
F-5	TE-4-9E	CET for B QSPDS Loc F-5
F-9	TE-4-10E*	CET for B QSPDS Loc F-9
G-1 **	TE-4-12E	CET for B QSPDS Loc G-1
G-6	TE-4-13E	CET for B QSPDS Loc G-6
H-8	TE-4-14E	CET for B QSPDS Loc H-8
H-9	TE-4-39E	CET for B QSPDS Loc H-9
H-13	TE-4-41E	CET for B QSPDS Loc H-13
H-15	TE-4-15E	CET for B QSPDS Loc H-15
J-2	TE-4-16E*	CET for B QSPDS Loc J-2
K-3	TE-4-19E*	CET for B QSPDS Loc K-3
K-5	TE-4-20E*	CET for B QSPDS Loc K-5
K-11	TE-4-22E	CET for B QSPDS Loc K-11
L-8	TE-4-43E	CET for B QSPDS Loc L-8
M-9	TE-4-23E	CET for B QSPDS Loc M-9
M-11	TE-4-47E	CET for B QSPDS Loc M-11
N-4	TE-4-48E	CET for B QSPDS Loc N-4
N-6	TE-4-24E	CET for B QSPDS Loc N-6
P-8	TE-4-25E	CET for B QSPDS Loc P-8
R-7	TE-4-26E	CET for B QSPDS Loc R-7
#1 HD	TE-4-6501	ICCS THMCPL for B QSPDS #1 Head
#2 HD	TE-4-6502	ICCS THMCPL for B QSPDS #2 Head
#3 PL	TE-4-6503	ICCS THMCPL for B QSPDS Plenum #3
#4 PL	TE-4-6504	ICCS THMCPL for B QSPDS Plenum #4
#5 PL	TE-4-6505*	ICCS THMCPL for B QSPDS Plenum #5
#6 PL	TE-4-6506	ICCS THMCPL for B QSPDS Plenum #6
#7 PL	TE-4-6507	ICCS THMCPL for B QSPDS Plenum #7
#8 PL	TE-4-6508	ICCS THMCPL for B QSPDS Plenum #8

* Abandoned Detector Elements
** See footnote on Page 12.

FINAL PAGE

Facility:	Turkey Point	Task No:	01094010200
Task Title:	Perform an Accident Monitoring Instrumentation Channel Check and Declare INOP	JPM No:	S.A.2
K/A Reference:	2.2.22 SRO 4.7		
Examinee:		NRC Examiner:	
Facility Evaluator:		Date:	

Method of testing:

Simulated Performance X Actual Performance

Classroom X Simulator Plant

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- Unit 3 and 4 are both Mode 1 100% power.
- No equipment is OOS
- All 4-OSP-204 "Accident Monitoring Instrumentation Channel Checks" prerequisites have been met.

Task Standard:

- Determination that the acceptance criteria for Quadrant 2 Core Exit Thermocouples is NOT met.
- Determination that Core Exit Thermocouples are INOPERABLE.
- Determination that entry into Technical Specification LCO 3.3.3.3 Action a is required.

Required Materials:

- 4-OSP-204 "Accident Monitoring Instrumentation Channel Checks"
- Technical Specifications TURKEY POINT - UNITS 3 & 4

General References:

- 4-OSP-204 "Accident Monitoring Instrumentation Channel Checks"
- Technical Specifications TURKEY POINT - UNITS 3 & 4
- 0-ADM-536 Technical Specification Bases Control Program

Initiating Cue:

- You are an SRO assigned to Unit 4 and have been directed perform the monthly check of the Core Exit Thermocouples by completing 4-OSP-204 Accident Monitoring Instrumentation Channel Checks section 7.1.10.
- All required data is contained on the JPM BRIEFING SHEET.
- After checking Core Exit Thermocouples, determine if the results of the surveillance require any additional action (if any).

Time Critical Task: No

Validation Time: 25 minutes

HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!

SIMULATOR SETUP

Reset to IC #

N/A

Denote critical steps with a check mark(✓)

Start Time _____

STEP 1 :	Obtain a copy of 4-OSP-204 Accident Monitoring Instrumentation Channel Checks (From initiating cue.)	___ SAT ___ UNSAT
Standard:	Copy of 4-OSP-204 Accident Monitoring Instrumentation Channel Checks is obtained.	
Cue	Provide a copy of 4-OSP-204 Accident Monitoring Instrumentation Channel Checks	
Comment		

NOTE:	XXXX References CETs which are abandoned in accordance with 0-ADM-220, Abandoned Equipment Program.	
STEP 2 :	Check the Core Exit Thermocouples as follows (4-OSP-204 Step 7.1.10)	___ SAT ___ UNSAT
Standard:	Examinee checks the Core Exit Thermocouples by performing substeps 1 through 10.	
Cue		
Comment		

STEP 3 :	Calculate Avg Thot for Channels A and B using the values obtained in Substep 7.1.9.2. (4-OSP-204 Step 7.1.10.1)	___ SAT ___ UNSAT
Standard:	Examinee determines 4-OSP-204 Step 7.1.10.1 is N/A	
Cue		
Comment		
EXAMINER NOTE	N/A if greater than 2 percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 4 :	Record Quadrant One CET Temperatures (4-OSP-204 Step 7.1.10.2.a)	___ SAT ___ UNSAT
Standard:	Examinee records Quadrant One CET Temperatures in 4-OSP-204 Step 7.1.10.2.a	
Comment		
EXAMINER NOTE	See exam key for correct answers.	

STEP 5 :	Check Core Exit Thermocouple readings in Substep 7.1.10.2.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (4-OSP-204 Step 7.1.10.2.b)	____ SAT ____ UNSAT
Standard:	Examinee determines 4-OSP-204 Step 7.1.10.2.b is N/A	
Comment		
EXAMINER NOTE	N/A if greater than 2 percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 6 :	Check Core Exit Thermocouple readings in Substep 7.1.10.2.a are between 545 and 650 degrees. (4-OSP-204 Step 7.1.10.2.c)	____ SAT ____ UNSAT
Standard:	Examinee checks Core Exit Thermocouple readings in Substep 7.1.10.2.a are between 545 and 650 degrees.	
Comment		
EXAMINER NOTE	N/A if less than two (2) percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 7 : $\bar{T}$	Check to ensure at least four (4) Total CETs in Quadrant One meet acceptance criteria of Substep 7.1.10.2.b or 7.1.10.2.c. (4-OSP-204 Step 7.1.10.2.d)	____ SAT ____ UNSAT
Standard:	Examinee checks at least four (4) Total CETs in Quadrant One meet acceptance criteria of indicating between 545 and 650 degrees.	
Comment		

Note:	** Core energy distribution analysis suggests that Unit 4 QSPDS Channel A, Quadrant 3, Core Location E10, is swapped with QSPDS Channel B, Quadrant 2, Core Location G01. Therefore, for purposes of T.S. 3.3.3.3, Table 3.3-5, Item 14, and 0-ADM-536 3/4.3.3.3, failure of either CET E10 or CET G01 should conservatively be evaluated as failure of both CET E10 and CET G01.	
STEP 8 :	Record Quadrant Two CET Temperatures (4-OSP-204 Step 7.1.10.3.a)	___ SAT ___ UNSAT
Standard:	Examinee records Quadrant Two CET Temperatures in 4-OSP-204 Step 7.1.10.3.a	
Comment		
EXAMINER NOTE	See exam key for correct answers.	

STEP 9 :	Check Core Exit Thermocouple readings in Substep 7.1.10.2.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (4-OSP-204 Step 7.1.10.3.b)	___ SAT ___ UNSAT
Standard:	Examinee determines 4-OSP-204 Step 7.1.10.3.b is N/A	
Comment		
EXAMINER NOTE	N/A if greater than 2 percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 10 : $\bar{T}$	Check Core Exit Thermocouple readings in Substep 7.1.10.2.a are between 545 and 650 degrees. (4-OSP-204 Step 7.1.10.3.c)	____ SAT ____ UNSAT
Standard:	Examinee checks Core Exit Thermocouple readings in Substep 7.1.10.3.a are **NOT** between 545 and 650 degrees.	
Comment		
EXAMINER NOTE	N/A if less than two (2) percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 11 : $\bar{T}$	Check to ensure at least four (4) Total CETs in Quadrant Two meet acceptance criteria of Substep 7.1.10.3.b or 7.1.10.3.c. (4-OSP-204 Step 7.1.10.3.d)	____ SAT ____ UNSAT
Standard:	Examinee checks at least four (4) Total CETs in Quadrant Two DO **NOT** meet acceptance criteria of indicating between 545 and 650 degrees.	
Comment		
Cue	If the Examinee stops the performance of the surveillance to address administrative functions, (generating a PWO etc…) acknowledge the communication and inform the Examinee "Complete the remaining portions of the surveillance."	

Note:	** Core energy distribution analysis suggests that Unit 4 QSPDS Channel A, Quadrant 3, Core Location E10, is swapped with QSPDS Channel B, Quadrant 2, Core Location G01. Therefore, for purposes of T.S. 3.3.3.3, Table 3.3-5, Item 14, and 0-ADM-536 3/4.3.3.3, failure of either CET E10 or CET G01 should conservatively be evaluated as failure of both CET E10 and CET G01.	
STEP 12 :	Record Quadrant Three CET Temperatures (4-OSP-204 Step 7.1.10.4.a)	___ SAT ___ UNSAT
Standard:	Examinee records Quadrant Three CET Temperatures in 4-OSP-204 Step 7.1.10.4.a	
Comment		
EXAMINER NOTE	See exam key for correct answers.	

STEP 13 :	Check Core Exit Thermocouple readings in Substep 7.1.10.4.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (4-OSP-204 Step 7.1.10.4.b)	___ SAT ___ UNSAT
Standard:	Examinee determines 4-OSP-204 Step 7.1.10.4.b is N/A	
Comment		
EXAMINER NOTE	N/A if greater than 2 percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 14 :	Check Core Exit Thermocouple readings in Substep 7.1.10.4.a are between 545 and 650 degrees. (4-OSP-204 Step 7.1.10.4.c)	____ SAT ____ UNSAT
Standard:	Examinee checks Core Exit Thermocouple readings in Substep 7.1.10.4.a are between 545 and 650 degrees.	
Comment		
EXAMINER NOTE	N/A if less than two (2) percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 15 :	Check to ensure at least four (4) Total CETs in Quadrant Three meet acceptance criteria of Substep 7.1.10.4.b or 7.1.10.4.c. (4-OSP-204 Step 7.1.10.4.d)	____ SAT ____ UNSAT
Standard:	Examinee checks at least four (4) Total CETs in Quadrant Three meet acceptance criteria of indicating between 545 and 650 degrees.	
Comment		

STEP 16 :	Record Quadrant Four CET Temperatures (4-OSP-204 Step 7.1.10.5.a)	____ SAT ____ UNSAT
Standard:	Examinee records Quadrant Four CET Temperatures in 4-OSP-204 Step 7.1.10.5.a	
Comment		
EXAMINER NOTE	See exam key for correct answers.	

STEP 17 :	Check Core Exit Thermocouple readings in Substep 7.1.10.3.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (4-OSP-204 Step 7.1.10.5.b)	____ SAT ____ UNSAT
Standard:	Examinee determines 4-OSP-204 Step 7.1.10.5.b is N/A	
Comment		
EXAMINER NOTE	N/A if greater than 2 percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 18 :	Check Core Exit Thermocouple readings in Substep 7.1.10.5.a are between 545 and 650 degrees. (4-OSP-204 Step 7.1.10.5.c)	____ SAT ____ UNSAT
Standard:	Examinee checks Core Exit Thermocouple readings in Substep 7.1.10.5.a are between 545 and 650 degrees.	
Comment		
EXAMINER NOTE	N/A if less than two (2) percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 19 : $\bar{T}$	Check to ensure at least four (4) Total CETs in Quadrant Four meet acceptance criteria of Substep 7.1.10.5.b or 7.1.10.5.c. (4-OSP-204 Step 7.1.10.5.d)	____ SAT ____ UNSAT
Standard:	Examinee checks at least four (4) Total CETs in Quadrant Four meet acceptance criteria of indicating between 545 and 650 degrees.	
Comment		

STEP 20 :	IF a PWO is to be generated for a QSPDS readout, THEN use Enclosure 2 to determine the proper Temperature Element number to be referenced on the PWO for the given location. (4-OSP-204 Step 7.1.10.6)	____ SAT ____ UNSAT
Standard:	Examinee addresses generating a PWO for the out of range CET's and identifying the respective temperature elements.	
Comment		
Cue	If asked provide the following cue, "Another Operator will generate a PWO for CET's M3, G2, E4, D3, and G6."	

STEP 21 :	IF any Out-of-Service CET is not documented in accordance with Enclosure 1, THEN document the Out-of-Service CET in accordance with Enclosure 1. (4-OSP-204 Step 7.1.10.7)	____ SAT ____ UNSAT
Standard:	Examinee addresses documenting out of service CET's in accordance with Enclosure 1.	
Comment		
Cue	If asked provide the following cue, "Another Operator will document the Out-of-Service CET's entries for (M3, G2, E4, D3, and G6) in accordance with Enclosure 1."	

STEP 22 :	Record the following representative CET temperatures (4-OSP-204 Step 7.1.10.8.a & b)	____ SAT ____ UNSAT
Standard:	Examinee records Channel A and B representative CET temperatures in 4-OSP-204 Step 7.1.10.8 a & b	
Comment		
EXAMINER NOTE	See exam key for correct answers.	

STEP 23 :	Check representative CET temperature readings to be between 545 and 650 °F (4-OSP-204 Step 7.1.10.8.c)	___ SAT ___ UNSAT
Standard:	Examinee checks Channel A and B representative CET temperature readings to be between 545 and 650 °F	
Comment		
EXAMINER NOTE	N/A if less than two (2) percent power. Initial conditions stated Unit 4 is at 100% power.	

STEP 24 :	Record the following CET Subcooling temperatures: (4-OSP-204 Step 7.1.10.9)	___ SAT ___ UNSAT
Standard:	Examinee records Channel A and B CET Subcooling temperatures in 4-OSP-204 Step 7.1.10.9 a & b and reactor Power in Step 7.1.10.9.c	
Comment		
EXAMINER NOTE	See exam key for correct answers.	

STEP 25 :	Check CET Subcooling Temperatures for each Channel to be in the appropriate acceptance range for the current reactor power: (4-OSP-204 Step 7.1.10.9.d)	____ SAT ____ UNSAT
Standard:	Examinee checks Channel A and B CET Subcooling Temperatures to be between 5 and 30 degrees	
Comment		

STEP 26 :	Notify the Unit Supervisor of the results of the surveillance AND that the surveillance is complete. (4-OSP-204 Step 7.1.10.13)	____ SAT ____ UNSAT
Standard:	Examinee determines a review of Technical Specifications is required	
Cue	If asked provide the following cue, "Determine if the results of the surveillance require any additional action (if any)."	
Comment		
EXAMINER NOTE	It is permissible if the Examinee proceeds directly to Technical Specifications.	

STEP 27 : $\bar{T}$	In Core Thermocouples (Core Exit Thermocouples) declared INOPERABLE (Technical Specifications TURKEY POINT – UNITS 3 & 4 LCO 3.3.3.3)	___ SAT ___ UNSAT
Standard:	In Core Thermocouples (Core Exit Thermocouples) declared INOPERABLE, LCO 3.3.3.3.	
Cue	When asked, provide a copy of Technical Specifications TURKEY POINT – UNITS 3 & 4.	
Cue	If asked, provide a copy of 0-ADM-536 Technical Specification Bases Control Program.	
Comment		

STEP 28 : $\bar{T}$	Entry into LCO 3.3.3.3 Action a. Action 31 of TABLE 3.3-5 (Technical Specifications TURKEY POINT – UNITS 3 & 4 LCO 3.3.3.3 Table 3.3-5)	___ SAT ___ UNSAT
Standard:	Examinee determines entry into LCO 3.3.3.3 Action a, Action 31 of TABLE 3.3-5 is required.	
Comment		
EXAMINER NOTE	Refer to TABLE 3.3-5 ACCIDENT MONITORING INSTRUMENTATION item 14.	
EXAMINER NOTE	ACTION 31 With the number of OPERABLE accident monitoring instrumentation channel(s) less than the Total Number of Channels either restore the inoperable channel(s) to OPERABLE status within 30 days, or submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 14 days outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the system to OPERABLE status.	
Terminating Cue:	**The task is complete when the Examinee determines entry into LCO 3.3.3 Action a, from Table 3.3-5 Action 31, is required.**	**STOP**

Stop Time _____

Verification of Completion

Job Performance Measure No. S.A.2

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Question Documentation:

Question:

_____

_____

_____

_____

_____

Response:

_____

_____

_____

_____

_____

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: _____ _____

JPM BRIEFING SHEET

The examiner 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 3 and 4 are both Mode 1 100% power.
- No equipment is OOS
- All 4-OSP-204 "Accident Monitoring Instrumentation Channel Checks" prerequisites have been met.

INITIATING CUE:

- You are an SRO assigned to Unit 4 and have been directed perform the monthly check of the Core Exit Thermocouples by completing 4-OSP-204 Accident Monitoring Instrumentation Channel Checks section 7.1.10.

- After checking Core Exit Thermocouples, determine if the results of the surveillance require any additional action (if any).

QUADRANT 1			
CET	Channel A	CET	Channel B
P7	563	R7	621
N11	601	P8	610
N10	620	N6	600
N8	618	N4	573
L6	616	M11	623
K8	615	M9	621
		L8	604

QUADRANT 2			
CET	Channel A	CET	Channel B
M3	542	K5	XXXX
H5	604	K3	XXXX
H3	XXXX	J2	XXXX
G2	544	G6	651
E4	652	G1	615
D3	536	F5	618
		F3	XXXX

QUADRANT 3			
CET	Channel A	CET	Channel B
G8	612	H8	606
E10	558	F9	XXXX
D5	615	E8	603
C12	568	B10	600
C8	621	B5	563
A8	562		

QUADRANT 4			
CET	Channel A	CET	Channel B
L14	577	K11	615
L12	619	H15	564
J12	621	H13	623
J10	621	H9	602
H11	604	E14	567
G15	561	E12	614
F13	621		
F11	609		

	Channel A	Channel B
Representative CET Temp	642	644
CET Subcooling temperatures:	12	10

Acknowledge to the examiner when you are ready to begin.

HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.

SA.2 KEY

INIT

NOTE

XXXX References CETs which are abandoned in accordance with 0-ADM-220, Abandoned Equipment Program.

7.1.10 Check the Core Exit Thermocouples as follows:

____ 1. Calculate Avg Thot for Channels A and B using the values obtained in Substep 7.1.9.2. (N/A if greater than 2 percent power.)

_____ (Substep 7.1.9.2.a) + _____ (Substep 7.1.9.2.b) + _____ (Substep 7.1.9.2.c) = _____ (Sum Ch A Temp)

_____ (Sum Ch A Temps) ÷ _____ (Number Loops) = _____ (Channel A Average Thot)

_____ (Substep 7.1.9.2.a) + _____ (Substep 7.1.9.2.b) + _____ (Substep 7.1.9.2.c) = _____ (Sum Ch B Temp)

_____ (Sum Ch B Temps) ÷ _____ (Number Loops) = _____ (Channel B Average Thot)

2. Record Quadrant One CET Temperatures:

____ a.

	Channel A		Channel B
P7	563	R7	621
N11	601	P8	610
N10	620	N6	600
N8	618	N4	573
L6	616	M11	623
K8	615	M9	621
		L8	604

____ b. Check Core Exit Thermocouple readings in Substep 7.1.10.2.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (N/A if greater than two (2) percent power.)

____ c. Check Core Exit Thermocouple readings in Substep 7.1.10.2.a are between 545 and 650 degrees. (N/A if less than two (2) percent power.)

____ d. Check to ensure at least four (4) Total CETs in Quadrant One meet acceptance criteria of Substep 7.1.10.2.b or 7.1.10.2.c.

TRAINING ONLY

INIT

7.1.10 (Cont'd)

3. Record Quadrant Two CET Temperatures:

____ a.

Channel A		Channel B	
M3	542	K5	XXXX
H5	604	K3	XXXX
H3	XXXX	J2	XXXX
G2	544	G6	651
E4	652	** G1	615
D3	536	F5	618
		F3	XXXX

____ b. Check Core Exit Thermocouple readings in Substep 7.1.10.3.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (N/A if greater than 2 percent power.)

____ c. Check Core Exit Thermocouple readings in Substep 7.1.10.3.a are between 545 and 650 degrees. (N/A if less than 2 percent power.)

____ d. Check to ensure at least four Total CETs in Quadrant Two meet acceptance criteria of Substep 7.1.10.3.b or 7.1.10.3.c.

4. Record Quadrant Three CET Temperatures:

____ a.

Channel A		Channel B	
G8	612	H8	606
** E10	558	F9	XXXX
D5	615	E8	603
C12	568	B10	600
C8	621	B5	563
A8	562		

____ b. Check Core Exit Thermocouple readings in Substep 7.1.10.4.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (N/A if greater than 2 percent power.)

____ c. Check Core Exit Thermocouple readings in Substep 7.1.10.4.a are between 545 and 650 degrees. (N/A if less than 2 percent power.)

____ d. Check to ensure at least four Total CETs in Quadrant Three meet acceptance criteria of Substep 7.1.10.4.b or 7.1.10.4.c.

** Core energy distribution analysis suggests that Unit 4 QSPDS Channel A, Quadrant 3, Core Location E10, is swapped with QSPDS Channel B, Quadrant 2, Core Location G01. Therefore, for purposes of T.S. 3.3.3.3, Table 3.3-5, Item 14, and 0-ADM-536 3/4.3.3.3, failure of **either** CET E10 or CET G01 should conservatively be evaluated as failure of **both** CET E10 and CET G01.

INIT

7.1.10 (Cont'd)

5. Record Quadrant Four CET Temperatures:

a. Channel A / Channel B

Channel A		Channel B	
L14	577	K11	615
L12	619	H15	564
J12	621	H13	623
J10	621	H9	602
H11	604	E14	567
G15	561	E12	614
F13	621		
F11	609		

b. Check Core Exit Thermocouple readings in Substep 7.1.10.5.a are within (plus or minus) 15 degrees of Average Thot calculated in Substep 7.1.10.1. (N/A if greater than 2 percent power.)

c. Check Core Exit Thermocouple readings in Substep 7.1.10.5.a are between 545 and 650 degrees. (N/A if less than 2 percent power.)

d. Check to ensure at least four Total CETs in Quadrant Four meet acceptance criteria of Substep 7.1.10.5.b or 7.1.10.5.c.

6. **IF** a PWO is to be generated for a QSPDS readout, **THEN** use Enclosure 2 to determine the proper Temperature Element number to be referenced on the PWO for the given location.

7. **IF** any Out-of-Service CET is not documented in accordance with Enclosure 1, **THEN** document the Out-of-Service CET in accordance with Enclosure 1.

8. Record the following representative CET temperatures:

a. Channel A 642

b. Channel B 644

c. Check representative CET temperature readings to be between 545 and 650 °F (N/A if reactor power is less than 2%).

(1) Channel A

(2) Channel B

9. Record the following CET Subcooling temperatures:

a. Channel A 12

b. Channel B 10

c. Record current Reactor Power 100

Facility:	Turkey Point	Task No:	02203001100
Task Title:	Determine Allowable Stay Time & Determine Radiological Requirements	JPM No:	A.3
K/A Reference:	2.3.7 RO 3.5 SRO 3.6		
Examinee:		NRC Examiner:	
Facility Evaluator:		Date:	

Method of testing:

Simulated Performance X Actual Performance

Classroom X Simulator Plant

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- Unit 3 is in MODE 5, making preparations for MODE 4 entry.
- Clearance restoration from work on the Letdown piping in the Unit 3 Pipe and Valve Room is in progress.
- The work involved to restore the clearance will require kneeling and crawling within 12 inches of where the vertical pipe and the horizontal pipe join on the Letdown line.
- The SNPO has received a whole body dose of 407 mrem TEDE for the current year.
- You the Field Supervisor (Admin RO) and are holding a pre-job brief with the SNPO and are discussing RWP requirements and ALARA concerns prior to commencing the clearance restoration.

Task Standard:

- Four of five questions from the Initiating Cue are answered correctly.

Required Materials:

- Radiation Work Permit 08-005, "Radiological Controlled Area, Operations Department, Plant Operations"
- PTN Unit 3 Pipe and Valve Room Monthly Survey Map
- PTN Unit 4 Pipe and Valve Room Monthly Survey Map

General References:

- 0-HPS-025.1, "General Posting Requirements for Radiological Hazards"
- 0-ADM-600, "Radiation Protection Manual"
- 0-ADM-604, "Radiological Protection Guidelines and Practices"
- 0-HPS-020, "Radiation Surveys"
- 0-HPS-021, "Surface Contamination Surveys"

Initiating Cue:

Using the initial conditions and required references determine the following:

- What is the maximum stay time based on the radiological conditions in the room without exceeding any dose limits?
- What are the minimum requirements for protective clothing in the room?
- What is the minimum required dosimetry required for entry into the room?
- What is the area of highest surface contamination in the room?
- Where is the lowest dose location in the Contaminated Area where the operator should stand in the event that he/she is required to wait there?

Time Critical Task: No

Validation Time: 20 minutes

HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!

SIMULATOR SETUP

Reset to IC #
N/A

Denote critical steps with a check mark(T)

Start Time _____

STEP 1 :	Obtain a copy of Radiation Work Permit 08-005, "Radiological Controlled Area, Operations Department, Plant Operations" and PTN Unit 3 Pipe and Valve Room Monthly Survey Map	___ SAT ___ UNSAT
Standard:	Copy of the RWP and Survey Map are obtained.	
Cue	Provide a copy of the following: • Radiation Work Permit 08-005, "Radiological Controlled Area, Operations Department, Plant Operations" • Radiation Work Permit 08-118, "Radiological Controlled Area, 10' Pipeway, HRA." • PTN Unit 3 Pipe and Valve Room Monthly Survey Map • PTN Unit 4 Pipe and Valve Room Monthly Survey Map	
Comment		
EXAMINER NOTE:	Both the Unit 3 and Unit 4 Pipe and Valve Room Survey Maps are provided. Both 005 (Operations General RCA) and 118 (Operations Job Specific) RWP's are provided. The examinee needs to differentiate between the survey maps to get the correct results. **ALL** correct answers are provided on the JPM ANSWER KEY	

STEP 2 : $\bar{T}$	What is the maximum stay time based on the radiological conditions in the room without exceeding any dose limits?	___ SAT ___ UNSAT
Standard:	The examinee determines the maximum stay time is 30minutes (0.5 hour) by interpreting the RWP 08-005 requirements and the Unit 3 Pipe and Valve Room survey map data.	
Comment		
EXAMINER NOTE:	The maximum stay time allowed under this RWP based on Unit 3 Pipe and Valve Room highest general area dose rates is 30 min (0.50 hour) 25 mrem is the maximum dose allowed by RWP 08-005. 25 mrem / 50 mrem/hr (from the highest general area dose rate in the Unit 3 Pipe and Valve Room 25 mrem divided by 50mrem per hour = 0.5 hr.	

STEP 3 : $\bar{T}$	What are the minimum requirements for protective clothing in the room?	___ SAT ___ UNSAT
Standard:	The examinee determines a set of full protective clothing is required by interpreting the RWP 08-005 Note 1 requirements with the initial conditions given.	
Comment		
EXAMINER NOTE:	RWP 08-005 special instruction #1 requires a full set of protective clothing for any work done while kneeling or crawling in a Contaminated Area.	

STEP 4 : $\bar{T}$	What is the minimum required dosimetry required for entry into the area?	____ SAT ____ UNSAT
Standard:	The examinee determines the following dosimetry is required by interpreting the RWP 08-005 and the Unit 3 Pipe and Valve Room survey map: TLD **AND** PAM or PEA	
Comment		
EXAMINER NOTE:	RWP 08-005 specifies that Operators are required to wear a PAM or PEA while entry into the RCA	

STEP 5 : $\bar{T}$	What is the area of highest surface contamination in the room?	____ SAT ____ UNSAT
Standard:	The examinee determines 1.6K dpm/100 cm^2 by interpreting the Unit 3 Pipe and Valve Room survey map data.	
Comment		
EXAMINER NOTE:	As found on PTN Unit 3 Pipe and Valve Room Monthly Survey Map, swipe # 18.	

STEP 6 : $\bar{T}$	Where is the lowest dose location in the Contaminated Area where the operator should stand in the event that he/she is required to wait there?	___ SAT ___ UNSAT
Standard:	The examinee determines the lowest dose area in the Unit 3 Pipe and Valve Room is near the Contaminated Area boundary lower left area of the survey map near swipe #8 by interpreting the Unit 3 Pipe and Valve Room survey map data.	
Comment		

Terminating Cue:	**The task is complete when the Examinee returns the cue sheet to the examiner.**	**STOP**

Stop Time _____

JPM ANSWER KEY

1. What is the maximum stay time based on the highest general area radiation in the room?

   ANSWER: The maximum stay time allowed under this RWP based on Unit 3 Pipe and Valve Room highest general area dose rates is 30 min (0.50 hour)

   BASES: 25 mrem is the maximum dose allowed by RWP 08-005.

   25 mrem / 50 mrem/hr (from the highest general area dose rate in the Unit 3 Pipe and Valve Room

   25 mrem divided by 50mrem per hour = 0.5 hr.

2. What is the minimum requirement for protective clothing?

   ANSWER: Full protective clothing is required per RWP 08-005 special instruction #1

3. What is the minimum required dosimetry required for entry into the area?

   ANSWER: The following dosimetry is required:

   - TLD

   AND

   - PAM or PEA

4. What is the area of highest surface contamination in the room?

   ANSWER: From the survey map, swipe #18 has the highest surface contamination in Unit 3 Pipe and Valve Room (1.6K dpm/100 cm^2).

5. Where is the lowest dose location in the Contaminated Area where the operator should stand in the event that he/she is required to wait there?

   ANSWER: The examinee determines the lowest dose area in the Unit 3 Pipe and Valve Room is near the Contaminated Area boundary lower left area of the survey map near swipe #8 by interpreting the Unit 3 Pipe and Valve Room survey map data.

Verification of Completion

Job Performance Measure No. A.3

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Question Documentation:

Question:

_____

_____

_____

_____

_____

Response:

_____

_____

_____

_____

_____

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: _____ _____

JPM BRIEFING SHEET

The examiner 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 3 is in MODE 5, making preparations for MODE 4 entry.
- Clearance restoration from work on the Letdown piping in the Unit 3 Pipe and Valve Room is in progress.
- The work involved to restore the clearance will require kneeling and crawling within 12 inches of where the vertical pipe and the horizontal pipe join on the Letdown line.
- The SNPO has received a whole body dose of 407 mrem TEDE for the current year.
- You the Field Supervisor (Admin RO) and are holding a pre-job brief with the SNPO and are discussing RWP requirements and ALARA concerns prior to commencing the clearance restoration.

INITIATING CUE:

Using the initial conditions and required references determine the following:

1. What is the maximum stay time based on the radiological conditions in the room without exceeding any dose limits?

2. What are the minimum requirements for protective clothing in the room?

3. What is the minimum required dosimetry required for entry into the room?

4. What is the area of highest surface contamination in the room?

5. Where is the lowest dose location in the Contaminated Area where the operator should stand in the event that he/she is required to wait there?

Acknowledge to the examiner when you are ready to begin.

HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY ANSWERED ALL THE QUESTIONS.

A3

TRAINING USE ONLY

Rev. 12-12-07

RADIATION WORK PERMIT

NO. 08-0005 REV.1 HP-1

DOSIMETER SETPOINTS

DOSE ALARM: 25 MREM DOSE RATE ALARM: 350 MR/HR

JOB LOCATION AND WORK TO BE PERFORMED

RADIATION CONTROLLED AREA
OPERATIONS DEPARTMENT PERSONNEL TO PERFORM PLANT OPERATIONS AND SUPPORT WORK

LOCATION	RADIATION LEVEL mrem/hr	CONTAMINATION LEVEL DPM/100cm^2	AIRBORNE ACTIVITY PARTICULATE DAC	IODINE DAC	GAS mrem/hr
AUX BLDG	<1-80	<1000-100,000	<.30	<.30	<1
RWB	<1-70	<1000-10,000	<.30	<.30	<1
YARD / DSW / RWST	<1-10	<1000-10,000	<.30	<.30	<1
U3/4 P &V RMS	1-50	<1000-10,000	<.30	<.30	<1
U3/4 CPR	1-40	<1000-100,000	<.30	<.30	<1
U3/4 RHR PITS	1-50	<1000-100,000	<.30	<.30	<1
U3 10' PIPEWAYS	1-80	<1000-10,000	<.30	<.30	<1
U4 10' PIPEWAYS	1-250	<1000-10,000	<.30	<.30	<1
S.FILL RM	1-70	<1000-100,000	<.30	<.30	<1

AUTHORIZED ACCESS

Y	CONTAMINATED AREA ACCESS	Y	HIGH RADIATION AREA ACCESS	Y	AIRBORNE RADIOACTIVITY AREA
Y	HIGH CONTAMINATION AREA ACCESS	NO	LOCKED HIGH RADIATION AREA ACCESS	NO	NEUTRON DOSIMETRY AREA ACCESS
Y	HOT PARTICLE AREA ACCESS	NO	VERY HIGH RADIATION AREA ACCESS	NO	CONTAINMENT BUILDING ACCESS

RP BRIEFINGS REQUIRED

NO	PRE - JOB RWP BRIEFING REQUIRED	Y	SHIFTLY HIGH RAD AREA BRIEFING REQUIRED FOR HRA ACCESS

DOSIMETRY REQUIREMENTS

Y	TLD & ELECTRONIC DOSIMETER (DAD)	Y	PAM OR PEA IS REQUIRED		

SPECIAL INSTRUCTIONS

1) Shoe covers and gloves are the minimum PC's **required** for entry into a CONTAMINATED AREA (A Lab Coat is also required in tight areas). The minimum PC's required for opening resin loading system and or venting/opening of any radioactive system is Lab Coat and Gloves. When operating valves across contaminated boundaries, Operators shall remove gloves and discard them into the trash receptacle located in the area and proceed to directly to frisking station and perform a frisk. Full protective clothing is required for any work or when kneeling and crawling in a CONTAMINATED AREA.

2) Water resistant outer PC's is required in Wet CONTAMINATED AREAS.

3) For radioactive systems a catch device **SHALL** be used when disconnecting fittings or opening systems. Notify RP immediately if spill or leakage occurs. RP to survey fittings when connections are broken on radioactive systems.

4) Continuous RP coverage is required for opening any portion of the resin loading system.

5) Notify RP prior to venting VCT's or Gas Decay Tanks.

6) In HOT PARTICLE AREAS, RP Coverage is required. Minimum dress requirement is Full PC's, Disposable Outer PC's, Double Gloves, Double Shoe Covers and a Face Shield. Worker shall receive a Hot Particle survey at least once every two hours and upon exit from the Hot Particle area. Prior to work contact RP to discuss specific Hot Particle controls as specified in 0-HPS-027.1.

7) Extra Protective Clothing is required to work with **HIGHLY CONTAMINATED** Materials. Minimum dress requirement is Full PC's, Double Gloves and/or Shoe covers. A face shield may be required. To work in **HIGHLY CONTAMINATED AREAS** one or more of the following may be required:

A) Decon area / equipment to <100,000 dpm/100cm2, (Decontamination shall be performed as directed by RP).
B) Use **HEPA** ventilation / vacuum,
C) Keep area / equipment wet during repairs,
D) Cover or contain area / equipment.

Notify RP Prior to start of work with Highly Contaminated Materials.

8) Review current survey data prior to entering work area. Notify RP prior to start of work.

MAN-REM ESTIMATE: 1.800

Start Date: 1/1/2008 Expiration Date: 1/1/2009

TERMINATED IN HIS-20 _____ DUE TO ☐ Job Cancelled
INITIALS ☐ Job Completed

H.P. SUPERVISION APPROVAL DATE TIME

A3 **TRAINING USE ONLY**

Rev. 12-12-07

RADIATION WORK PERMIT

NO. **08-118** **HP-1**

DOSIMETER SETPOINTS

DOSE ALARM: **20** MREM DOSE RATE ALARM: **500** MR/HR

JOB LOCATION AND WORK TO BE PERFORMED

RADIATION CONTROLLED AREA 10' PIPEWAY-HRA

OPERATIONS, MAINT. ACTIVITIES , INSPECTIONS, SURVEILANCES AND TESTING IN 10' PIPEWAY AND SUPPORT WORK

LOCATION	RADIATION LEVEL mrem/hr	CONTAMINATION LEVEL DPM/100cm²	AIRBORNE ACTIVITY		
			PARTICULATE DAC	IODINE DAC	GAS mrem/hr
AUX BLDG	<1-80	<1000-10,000	<.30	<.30	<1
U3 10' PIPEWAYS	1-80	<1000-10,000	<.30	<.30	<1
U4 10' PIPEWAYS	1-250	<1000-10,000	<.30	<.30	<1

AUTHORIZED ACCESS

Y	CONTAMINATED AREA ACCESS	Y	HIGH RADIATION AREA ACCESS	NO	AIRBORNE RADIOACTIVITY AREA
Y	HIGH CONTAMINATION AREA ACCESS	NO	LOCKED HIGH RADIATION AREA ACCESS	NO	NEUTRON DOSIMETRY AREA ACCESS
Y	HOT PARTICLE AREA ACCESS	NO	VERY HIGH RADIATION AREA ACCESS	NO	CONTAINMENT BUILDING ACCESS

RP BRIEFINGS REQUIRED

NO	PRE - JOB RWP BRIEFING REQUIRED	Y	SHIFTLY HIGH RAD AREA BRIEFING REQUIRED FOR HRA ACCESS

DOSIMETRY REQUIREMENTS

Y	TLD & ELECTRONIC DOSIMETER (DAD)	Y	PAM OR PEA REQUIRED IN HIGH NOISE AREA	Y	PAM OR PEA REQUIRED IN HIGH RAD AREA

SPECIAL INSTRUCTIONS

1) Notify RP prior to start and completion of testing activities.

2) Full protective clothing is **required** for any work in a "CONTAMINATED AREA".

3) Water resistant outer PC's is required in Wet CONTAMINATED AREAS.

4) Containment device **SHALL** be used when draining, venting, cleaning or opening radioactive systems. Direct any water to a poly bottle or floor drain. Notify RP prior to any system breach.

5) In HOT PARTICLE AREAS, **RP Coverage** is required. Minimum dress requirement is Full PC's, Disposable Outer PC's, Double Gloves, Double Shoe Covers and a Face Shield. Worker shall receive a Hot Particle survey at least once every two hours and upon exit from the Hot Particle area. Prior to work contact RP to discuss specific Hot Particle controls as specified in 0-HPS-027.1.

6) Extra Protective Clothing is required to work with **HIGHLY CONTAMINATED** Materials. Minimum dress requirement is Full PC's, Double Gloves and/or Shoe covers. A face shield may be required. To work in HIGHLY CONTAMINATED AREAS one or more of the following may be required:

A) Decon area / equipment to <100,000 dpm/100cm2, (Decontamination shall be performed as directed by RP).
B) Use **HEPA** ventilation / vacuum,
C) Keep area / equipment wet during repairs,
D) Cover or contain area / equipment.

Notify RP Prior to start of work with Highly Contaminated Materials.

7) Review current survey data prior to entering work area.

ALARA HOLD POINTS

MAN-REM ESTIMATE: **0.100**

Start Date: 1/1/2008 Expiration Date: 1/1/2009

TERMINATED IN HIS-20 _____ DUE TO ☐ Job Cancelled ☐ Job Completed

INITIALS

H.P. SUPERVISION APPROVAL DATE TIME

Facility:	Turkey Point	Task No:	1001013400
Task Title:	Complete a State Notification Form	JPM No:	R.A.4
K/A Reference:	2.4.39 RO 3.9		
Examinee:		NRC Examiner:	
Facility Evaluator:		Date:	

Method of testing:

Simulated Performance X Actual Performance

Classroom X Simulator Plant

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- Unit 3 is in Mode 3.
- The Reactor tripped due to a LOCA in the Containment
- The Emergency Coordinator declared a GENERAL EMERGENCY at TODAY at time 1200
- The reason for the GENERAL EMERGENCY was a Large Break LOCA, EAL number 1D
- Three previous Emergency Plan messages have been sent to the State and county authorities.
- Severe core damage has occurred.
- Wind direction is from 120
- Wind speed is 10 mph
- No radioactive release is in progress.
- Protective Action Recommendations are as follows:

  0-2 miles **Evacuate ALL** sectors

  2-5 miles **Evacuate (Sectors Affected). Shelter ALL REMAINING** sectors

  5-10 miles **Shelter ALL** Sectors

Task Standard:

- The Florida Nuclear Plant Emergency Notification Form is completed in accordance 0-EPIP-20134 Offsite Notifications and Protective Action Recommendations, with NO errors on required items identified with a * within 15 minutes.

Required Materials:

- 0-EPIP- 20134, Offsite Notifications and Protective Action Recommendations
- FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM

General References:

- 0-EPIP- 20134, Offsite Notifications and Protective Action Recommendations
- FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM

Initiating Cue:

- You are the Shift Communicator in the Control Room, given the initial conditions, complete the Florida Nuclear Plant Emergency Notification Form and hand it to the examiner when you are complete.
- There is an element of this task that is time critical.

Time Critical Task: Yes

Validation Time: 15 minutes

HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!

SIMULATOR SETUP

Reset to IC #
N/A

Denote critical steps with a check mark(✓)

Start Time _____

STEP 1 :	Obtain a Florida Nuclear Plant Emergency Notification Form. (From initiating cue.)	____ SAT ____ UNSAT
Standard:	A Florida Nuclear Plant Emergency Notification Form is obtained.	
Cue	Provide a copy of a Florida Nuclear Plant Emergency Notification Form F-439 and 0-EPIP- 20134, Offsite Notifications and Protective Action Recommendations.	
Comment		

STEP 2 : $\bar{T}$	Complete Florida Nuclear Plant Emergency Notification Form. (0-EPIP- 20134, Attachment 1B) (Turkey Point Nuclear Form F 439)	____ SAT ____ UNSAT
Standard:	The examinee completes a Florida Nuclear Plant Emergency Notification Form is with no errors noted on required items annotated by a * within 15 minutes.	
Comment		
EXAMINER NOTE:	Step by step instructions for completing the Florida Nuclear Plant Emergency Notification Form are contained within 0-EPIP- 20134, Offsite Notifications and Protective Action Recommendations, Attachment 1B.	
EXAMINER NOTE:	The time critical element is complete when the State Notification Form is complete.	
EXAMINER NOTE:	See the exam key for a copy of the completed State Notification Form	

Terminating Cue:	**The task is complete when the Examinee returns the State Notification Form to the examiner.**	**STOP**

Stop Time _____

Verification of Completion

Job Performance Measure No. R.A.4

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Question Documentation:

Question:

_____

_____

_____

_____

_____

Response:

_____

_____

_____

_____

_____

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: _____ _____

JPM BRIEFING SHEET

The examiner 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 3 is in Mode 3.
- The Reactor tripped due to a LOCA in the Containment
- The Emergency Coordinator declared a GENERAL EMERGENCY at TODAY at time 1200
- The reason for the GENERAL EMERGENCY was a Large Break LOCA, EAL number 1D
- Three previous Emergency Plan messages have been sent to the State and county authorities.
- Severe core damage has occurred.
- Wind direction is from 120
- Wind speed is 10 mph
- No radioactive release is in progress.
- Protective Action Recommendations are as follows:

  0-2 miles **Evacuate ALL** sectors

  2-5 miles **Evacuate (Sectors Affected). Shelter ALL REMAINING** sectors

  5-10 miles **Shelter ALL** Sectors

INITIATING CUE:

- You are the Shift Communicator in the Control Room, given the initial conditions, complete the Florida Nuclear Plant Emergency Notification Form and hand it to the examiner when you are complete.

- There is an element of this task that is time critical.

Acknowledge to the examiner when you are ready to begin.

HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.

Revised / Replacement Key (BLOCK 11)

RAH TRAINING ONLY

FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM

Online Verification: ☒ STATE ☒ MIAMI-DADE COUNTY ☒ MONROE COUNTY

1. A. ☒ This Is A Drill B. ☐ This Is An Actual Event
2. A. Date TODAY *B. Contact Time: 1200 C. Reported by: Name ME (COMMUNICATOR)
   D. Message Number: 1 E. Reported From: ☒ Control Room ☐ TSC ☐ EOF
   F. ☒ Initial/New Classification OR ☐ Update Notification
3. SITE A. ☐ Crystal River UNIT 3 B. ☐ St. Lucie UNIT 1 C. ☐ St. Lucie UNIT 2
   D. ☒ Turkey Point UNIT 3 E. ☐ Turkey Point UNIT 4

*4. EMERGENCY CLASSIFICATION: A. ☐ Notification Of Unusual Event B. ☐ Alert
C. ☐ Site Area Emergency D. ☒ General Emergency

*5. A. ☒ EMERGENCY DECLARATION: B. ☐ EMERGENCY TERMINATION Date: TODAY Time: 12:00 PM

*6. REASON FOR EMERGENCY DECLARATION:** A. ☒ EAL Number: 1.D. OR B. ☐ Description _____

7. ADDITIONAL INFORMATION OR UPDATE: A. ☒ None OR B. ☐ Description _____

*8. WEATHER DATA: A. Wind direction from 120 degrees. B. Downwind Sectors Affected NPQ

*9. RELEASE STATUS: A. ☒ None (Go to Item 11) B. ☐ In Progress C. ☐ Has occurred, but stopped

10. RELEASE SIGNIFICANCE CATEGORY (at the Site Boundary)
A. ☐ Under evaluation B. ☐ Release within Normal Operating Limits (Tech Specs)
C. ☐ Non-Significant (Fraction of PAG Range) D. ☐ PAG Range (Protective Actions required)
E. ☐ Liquid release (no actions required)

*11. UTILITY RECOMMENDED PROTECTIVE ACTIONS FOR THE PUBLIC:
A. ☐ No recommended actions at this time. B. ☒ The utility recommends the following protective actions:

EVACUATE ZONES: N/A OR
SHELTER ZONES: N/A

Miles	Evacuate Sectors	Shelter Sectors	No Action Sectors
0 - 2	ALL	NONE	NONE
2 - 5	NPQ	ALL REMAINING	NONE
5 - 10	NONE	ALL	NONE

AND consider issuance of potassium iodide (KI)

If form is completed in the Control Room, go to item 15. If completed in the TSC or EOF, continue with item 12.

12. PLANT CONDITIONS:
A. Reactor Shutdown? ☐ YES ☐ NO B. Core Adequately Cooled? ☐ YES ☐ NO
C. Containment Intact? ☐ YES ☐ NO D. Core Condition: ☐ Stable ☐ Degrading

13. WEATHER DATA: A. Wind Speed _____ mph B. Stability Class _____

14. ADDITIONAL RELEASE INFORMATION: A. ☐ Not applicable (Go to Item 15)

Distance	Projected Thyroid Dose (CDE) for 1 Hour	Projected Total Dose (TEDE) for 1 Hour
1 Mile (Site Boundary)	B. _____ mrem	C. _____ mrem
2 Miles	D. _____ mrem	E. _____ mrem
5 Miles	F. _____ mrem	G. _____ mrem
10 Miles	H. _____ mrem	I. _____ mrem

EC or RM Approval Signature Sig EC Date TODAY Time TIME

15. MESSAGE RECEIVED BY: Name SWP PERSON Date TODAY Time TIME

** IF EMERGENCY CLASS ESCALATION IS KNOWN TO BE NECESSARY AND A NEW NOTIFICATION FORM WILL BE TRANSMITTED WITHIN 15 MINUTES, THEN YOU MAY GO TO EC/RM APPROVAL SIGNATURE LINE.

* ITEMS ARE EVALUATED FOR NRC PERFORMANCE INDICATORS (PIs)

F-439/1:2 Rev 8 (11/10/08)

TRAINING ONLY

Facility:	Turkey Point	Task No:	01001013400
Task Title:	Classify the Event and Issue PARs	JPM No:	S.A.4
K/A Reference:	2.4.41 SRO 4.6		
Examinee:		NRC Examiner:	
Facility Evaluator:		Date:	

Method of testing:

Simulated Performance X Actual Performance

Classroom X Simulator Plant

Read to the examinee:
I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

Initial Conditions:

- Unit 3 is in Mode 3
- The Reactor tripped due to a LOCA in the Containment
- The Unit Supervisor is transitioning to 3-EOP-E-1, Loss of Reactor or Secondary Coolant.
- Sump Levels are responding as anticipated.
- RCS Pressure is 1300 psig.
- Both Trains of Safety Injection have actuated.
- HHSI flow is 300 gpm
- Containment Pressure is 25 psig and rising slowly
- Both Trains of Containment Spray have actuated and are providing flow.
- Adverse conditions exist in the Containment
- No radioactive release is in progress.
- Wind speed is 10 mph
- Wind direction is from 120
- Three previous Emergency Plan messages have been sent to the State and county authorities.

Task Standard:

- Classification of General Emergency, EAL Number 1D is declared within 15 minutes of starting the task.
- A Standard General Emergency Protective Action Recommendation (PAR) is made.
- The Florida Nuclear Plant Emergency Notification Form is completed in accordance 0-EPIP-20134 Offsite Notifications and Protective Action Recommendations, with NO errors on required items identified with a * within 15 minutes of event declaration.

Required Materials:
- 0-EPIP-20101, DUTIES OF EMERGENCY COORDINATOR
- 0-EPIP- 20134, Offsite Notifications and Protective Action Recommendations

General References:
- 0-EPIP-20101, DUTIES OF EMERGENCY COORDINATOR
- 0-EPIP- 20134, Offsite Notifications and Protective Action Recommendations

Initiating Cue:

- You are the Emergency Coordinator in the Control Room. Given the initial conditions classify the event using 0-EPIP-20101, DUTIES OF EMERGENCY COORDINATOR and issue protective action recommendations using 0-EPIP- 20134, Offsite Notifications and Protective Action Recommendations.

- By raising your hand will signify that you have completed the event declaration. At that time the Examiner will provide you with a Florida State Notification Form. You will then complete the Florida State Notification Form using 0-EPIP- 20134, Offsite Notifications and Protective Action Recommendations.

- When you have completed the Florida State Notification Form, raise your hand to inform the Examiner you are done.

- There is an element of this task that is Time Critical.

Time Critical Task: Yes

Validation Time: 20 minutes

HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!

SIMULATOR SETUP

Reset to IC #

N/A

Denote critical steps with a check mark(✓)

Start Time _____

STEP 1 :	Obtain 0-EPIP-20101, DUTIES OF EMERGENCY COORDINATOR. (From the initiating cue.)	___ SAT ___ UNSAT
Standard:	0-EPIP-20101, DUTIES OF EMERGENCY COORDINATOR is obtained.	
Cue	Provide a copy of 0-EPIP-20101, DUTIES OF EMERGENCY COORDINATOR, Enclosure 1 Emergency Classification Table.	
Comment		

STEP 2 :	Review 0-EPIP-20101, DUTIES OF EMERGENCY COORDINATOR. (0-EPIP-20101, Enclosure 1)	___ SAT ___ UNSAT
Standard:	Examinee reviews 0-EPIP-20101, DUTIES OF EMERGENCY COORDINATOR Enclosure 1, for the event depicted in the initial conditions sheet.	
Comment		

NOTE:	Procedure Caution; CAUTION : Consult 0- EPIP- 20134, Attachment 3, for required Protective Action Recommendation	
STEP 3 :	Classify Off-Normal Event using present available information, AND declare the emergency classification using Enclosure 1. (0-EPIP-20101, Enclosure 1)	____ SAT ____ UNSAT
Standard:	The examinee classifies the event as a General Emergency, EAL Number **1D** by interpreting the information given in the initial conditions within 15 minutes of starting the JPM.	
Comment		
EXAMINER NOTE:	The GE Classification is based on the following: EAL number 1D • RCS Leakage greater than 50 gpm is given in the initial conditions as a LOCA with High Head Safety Injection flow of 300 gpm. **AND** • RCS Leakage greater than available charging pump capacity is given in the initial conditions as a LOCA with High Head Safety Injection flow of 300 gpm. **AND** • Containment Pressure in excess of 20 psig is given in the initial conditions.	
EXAMINER NOTE:	Annotate the stop time for the event classification here. _____	
EXAMINER NOTE:	Examinee continues with the task to issue Protective Action Recommendations and complete the State Notification Form using 0-EPIP- 20134, Offsite Notifications and Protective Action Recommendations. The critical time element continues.	
EXAMINER NOTE:	Annotate the start time for the Florida State Notification here. _____	

STEP 4 :	Obtain 0-EPIP-20134, Offsite Notifications and Protective Action Recommendations and Florida State Notification Form, F-439.	____ SAT ____ UNSAT
Standard:	0-EPIP-20134, Offsite Notifications and Protective Action Recommendations and Florida State Notification Form, F-439 are obtained.	
Cue	Provide a copy of 0-EPIP-20134, Offsite Notifications and Protective Action Recommendations and Florida State Notification Form, F-439.	
Comment		

STEP 5 :	Review 0-EPIP-20134, Offsite Notifications and Protective Action Recommendations. (0-EPIP-20134, Attachment 3, form F-444)	____ SAT ____ UNSAT
Standard:	Examinee reviews 0-EPIP-20134, or equivalent form F-444, Offsite Notifications and Protective Action Recommendations	
Comment		

STEP 6 : $\bar{T}$	Issue Protective Action Recommendations. (0-EPIP-20134, Attachment 3 Note 1)	___ SAT ___ UNSAT
Standard:	Examinee determines the following Protective Action Recommendations for Actual or Projected Core Damage by interpreting the information given in the initial conditions within 15 minutes of declaration of the event: 0-2 miles **SHELTER ALL** sectors 2-5 miles **SHELTER Sectors N, P & Q**. 5-10 miles **NO ACTION.**	
Comment		
EXAMINER NOTE:	Protective Action Recommendations are based on the Standard General Emergency Protective Action Recommendations as depicted in the initial conditions: • LOCA without Severe Core Damage. • No Loss of Physical Control of the plant has occurred.	

STEP 7 :	Complete Florida Nuclear Plant Emergency Notification Form. (0-EPIP- 20134, Attachment 1B) (Turkey Point Nuclear Form F 439)	___ SAT ___ UNSAT
Standard:	The examinee completes a Florida Nuclear Plant Emergency Notification Form is with no errors noted on required items annotated by a * within 15 minutes.	
Comment		
EXAMINER NOTE:	Step by step instructions for completing the Florida Nuclear Plant Emergency Notification Form are contained within 0-EPIP- 20134, Offsite Notifications and Protective Action Recommendations, Attachment 1B.	
EXAMINER NOTE:	The time critical element is complete when the State Notification Form is complete.	
EXAMINER NOTE:	See the exam key for a copy of the completed State Notification Form	

Terminating Cue:	**The task is complete when the Examinee returns the cue sheet to the examiner.**	**STOP**

Stop Time _____

Verification of Completion

Job Performance Measure No. S.A.4

Examinee's Name: _____

Examiner's Name: _____

Date Performed: _____

Facility Evaluator: _____

Number of Attempts: _____

Time to Complete: _____

Question Documentation:

Question:

_____

_____

_____

_____

_____

Response:

_____

_____

_____

_____

_____

Result: Satisfactory/Unsatisfactory

Examiner's signature and date: _____ _____

JPM BRIEFING SHEET

The examiner 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 3 is in Mode 3
- The Reactor tripped due to a LOCA in the Containment
- The Unit Supervisor is transitioning to 3-EOP-E-1, Loss of Reactor or Secondary Coolant.
- Sump Levels are responding as anticipated.
- RCS Pressure is 1300 psig.
- Both Trains of Safety Injection have actuated.
- HHSI flow is 300 gpm
- Containment Pressure is 25 psig and rising slowly
- Both Trains of Containment Spray have actuated and are providing flow.
- Adverse conditions exist in the Containment
- No radioactive release is in progress.
- Wind speed is 10 mph
- Wind direction is from 120
- Three previous Emergency Plan messages have been sent to the State and county authorities.

INITIATING CUE:

- You are the Emergency Coordinator in the Control Room. Given the initial conditions classify the event using 0-EPIP-20101, DUTIES OF EMERGENCY COORDINATOR and issue protective action recommendations using 0-EPIP- 20134, Offsite Notifications and Protective Action Recommendations.

- By raising your hand will signify that you have completed the event declaration. At that time the Examiner will provide you with a Florida State Notification Form. You will then complete the Florida State Notification Form using 0-EPIP- 20134, Offsite Notifications and Protective Action Recommendations.

- When you have completed the Florida State Notification Form, raise your hand to inform the Examiner you are done.

- There is an element of this task that is Time Critical.

Acknowledge to the examiner when you are ready to begin.

HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.

SA4 KEY

FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM

Online Verification: ☐ STATE ☐ MIAMI-DADE COUNTY ☐ MONROE COUNTY

1. A. ☐ This Is A Drill B. ☒ This Is An Actual Event

A. Date TODAY / *B. Contact Time:_____ C. Reported by: Name_____

D. Message Number: 4_____ E. Reported From: ☒ Control Room ☐ TSC ☐ EOF

F. ☐ Initial/New Classification OR ☒ Update Notification

3. SITE A. ☐ Crystal River UNIT 3 B. ☐ St. Lucie UNIT 1 C. ☐ St. Lucie UNIT 2

D. ☒ Turkey Point UNIT 3 E. ☐ Turkey Point UNIT 4

*4. EMERGENCY CLASSIFICATION: A. ☐ Notification Of Unusual Event B. ☐ Alert

C. ☐ Site Area Emergency D. ☒ General Emergency

*5. A. ☒ EMERGENCY DECLARATION: B. ☐ EMERGENCY TERMINATION Date: TODAY / Time: NOW

*6. REASON FOR EMERGENCY DECLARATION:** A. ☒ EAL Number 1 D OR B. ☒ Description LOCA IN CONT or Similar

7. ADDITIONAL INFORMATION OR UPDATE: A. ☒ None OR B. ☐ Description_____

*8. WEATHER DATA: A. Wind direction from 120 degrees. B. Downwind Sectors Affected N,P,Q

*9. RELEASE STATUS: A. ☒ None (Go to Item 11) B. ☐ In Progress C. ☐ Has occurred, but stopped

10. RELEASE SIGNIFICANCE CATEGORY (at the Site Boundary)

A. ☐ Under evaluation B. ☐ Release within Normal Operating Limits (Tech Specs)

C. ☐ Non-Significant (Fraction of PAG Range) D. ☐ PAG Range (Protective Actions required)

E. ☐ Liquid release (no actions required)

*11. UTILITY RECOMMENDED PROTECTIVE ACTIONS FOR THE PUBLIC:

A. ☐ No recommended actions at this time. B. ☒ The utility recommends the following protective actions:

EVACUATE ZONES: NOT APPLICABLE OR

SHELTER ZONES: NOT APPLICABLE

Miles	Evacuate Sectors	Shelter Sectors	No Action Sectors
0 - 2	NONE	ALL	NONE
2 - 5	NONE	NPQ	ALL REM OR SIMILAR
5 - 10	NONE	NONE	NONE

AND consider issuance of potassium iodide (KI)

If form is completed in the Control Room, go to item 15. If completed in the TSC or EOF, continue with item 12.

12. PLANT CONDITIONS:

A. Reactor Shutdown? ☐ YES ☐ NO B. Core Adequately Cooled? ☐ YES ☐ NO

C. Containment Intact? ☐ YES ☐ NO D. Core Condition: ☐ Stable ☐ Degrading

13. WEATHER DATA: A. Wind Speed_____mph B. Stability Class_____

14. ADDITIONAL RELEASE INFORMATION: A. ☐ Not applicable (Go to Item 15)

Distance	Projected Thyroid Dose (CDE) for 1 Hour	Projected Total Dose (TEDE) for 1 Hour
1 Mile (Site Boundary)	B._____mrem	C._____mrem
2 Miles	D._____mrem	E._____mrem
5 Miles	F._____mrem	G._____mrem
10 Miles	H._____mrem	I._____mrem

EC or RM Approval Signature_____ Date / / Time_____

15. MESSAGE RECEIVED BY: Name_____ Date / / Time_____

** IF EMERGENCY CLASS ESCALATION IS KNOWN TO BE NECESSARY AND A NEW NOTIFICATION FORM WILL BE TRANSMITTED WITHIN 15 MINUTES, THEN YOU MAY GO TO EC/RM APPROVAL SIGNATURE LINE.

Revised/Replacement Key (BLOCK 11)

SAT TRAINING ONLY

FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM

Online Verification: ☒ STATE ☒ MIAMI-DADE COUNTY ☒ MONROE COUNTY

1. A. ☒ This Is A Drill B. ☐ This Is An Actual Event
2. A. Date X / X / X *B. Contact Time: XXXX C. Reported by: Name COMMUNICATOR
   D. Message Number: 4 E. Reported From: ☒ Control Room ☐ TSC ☐ EOF
   F. ☒ Initial/New Classification OR ☐ Update Notification
3. SITE A. ☐ Crystal River UNIT 3 B. ☐ St. Lucie UNIT 1 C. ☐ St. Lucie UNIT 2
   D. ☒ Turkey Point UNIT 3 E. ☐ Turkey Point UNIT 4

*4. EMERGENCY CLASSIFICATION: A. ☐ Notification Of Unusual Event B. ☐ Alert
C. ☐ Site Area Emergency D. ☒ General Emergency

*5. A. ☒ EMERGENCY DECLARATION: B. ☐ EMERGENCY TERMINATION Date: X / X / X Time: XX

*6. REASON FOR EMERGENCY DECLARATION:** A. ☒ EAL Number: 1 D OR B. ☐ Description _____

7. ADDITIONAL INFORMATION OR UPDATE: A. ☒ None OR B. ☐ Description _____

*8. WEATHER DATA: A. Wind direction from 120 degrees. B. Downwind Sectors Affected NPQ
*9. RELEASE STATUS: A. ☒ None (Go to Item 11) B. ☐ In Progress C. ☐ Has occurred, but stopped
10. RELEASE SIGNIFICANCE CATEGORY (at the Site Boundary)
A. ☐ Under evaluation B. ☐ Release within Normal Operating Limits (Tech Specs)
C. ☐ Non-Significant (Fraction of PAG Range) D. ☐ PAG Range (Protective Actions required)
E. ☐ Liquid release (no actions required)

*11. UTILITY RECOMMENDED PROTECTIVE ACTIONS FOR THE PUBLIC:
A. ☐ No recommended actions at this time. B. ☒ The utility recommends the following protective actions:

EVACUATE ZONES: N/A OR
SHELTER ZONES: N/A

Miles	Evacuate Sectors	Shelter Sectors	No Action Sectors
0 - 2	NONE	ALL	NONE
2 - 5	NONE	NPQ	ALL REMAINING
5 - 10	NONE	NONE	ALL

AND consider Issuance of potassium iodide (KI)

If form is completed in the Control Room, go to item 15. If completed in the TSC or EOF, continue with item 12.

12. PLANT CONDITIONS:
A. Reactor Shutdown? ☐ YES ☐ NO B. Core Adequately Cooled? ☐ YES ☐ NO
C. Containment Intact? ☐ YES ☐ NO D. Core Condition: ☐ Stable ☐ Degrading
13. WEATHER DATA: A. Wind Speed _____ mph B. Stability Class _____
14. ADDITIONAL RELEASE INFORMATION: A. ☐ Not applicable (Go to Item 15)

Distance	Projected Thyroid Dose (CDE) for 1 Hour	Projected Total Dose (TEDE) for 1 Hour
1 Mile (Site Boundary)	B. _____ mrem	C. _____ mrem
2 Miles	D. _____ mrem	E. _____ mrem
5 Miles	F. _____ mrem	G. _____ mrem
10 Miles	H. _____ mrem	I. _____ mrem

EC or RM Approval Signature Signature (ME-EC) Date XXX Time XXX
15. MESSAGE RECEIVED BY: Name NAME OF SWP CONTACT Date XXX Time XXX

** IF EMERGENCY CLASS ESCALATION IS KNOWN TO BE NECESSARY AND A NEW NOTIFICATION FORM WILL BE TRANSMITTED WITHIN 15 MINUTES, THEN YOU MAY GO TO EC/RM APPROVAL SIGNATURE LINE.

* ITEMS ARE EVALUATED FOR NRC PERFORMANCE INDICATORS (PIs)

F-439/1:2 Rev 8 (11/10/08)

TRAINING ONLY