

Final Submittal

**ST. LUCIE AUGUST 2004
EXAM NOS. 05000335/2004301
AND 05000389/2004301**

AUGUST 9 - 20, 2004

PART 2 OF 2

1. Administrative Questions/JPMs
2. In-plant JPMs
3. Control Room JPMs (simulator JPMs)

REGION II
ST. LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM

PERFORM A MANUAL CALORIMETRIC UNIT 2

CANDIDATE _____

EXAMINER _____

**REGION II
ST LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM**

PERFORM A MANUAL CALORIMETRIC UNIT 2

KA Statement: Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.

KA #: 2.1.7 (3.7 / 4.4)

References: 2-3200020, Primary System Manual Calorimetric
Steam Tables
Enthalpy Tables for Plant
Calculator

Candidate: _____ **Time Start**
Name
Time Finish

Performance Rating: Sat _____ Unsat _____

Validation Time 20 minutes

Examiner: _____ **Signature:** _____

Comments

**REGION II
ST LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM**

PERFORM A MANUAL CALORIMETRIC UNIT 2

Directions to the candidate for Administrative JPMS:

I will explain the initial conditions and state the task to be performed. You will be allowed to use any reference needed to complete the task. Ensure you indicate to me when you finish your assigned task by returning the material needed for the task that I provided to you.

Initial Conditions

It is Wednesday, 8-11-04. Unit 2 is at approximately 30% power, returning from a Short Notice Outage. A Chemistry hold is in effect until further notice.

Initiating Cue

The Unit Supervisor has instructed you to perform a primary system manual calorimetric IAW 2-3200020. No computers are available to perform this calculation.

Data Sheet if performed in classroom

- All Steam Generator pressures are 870 psia
- Feedwater temperatures are 330 degrees F
- Total blowdown = 80 gpm
- Feed flow 9011-2 (ERDADS) = 1.56×10^6 lbm/hr
- Feed flow 9021-2 (ERDADS) = 1.56×10^6 lbm/hr
- DCS pt KFA = 29101
- DCS pt KFB = 29345
- Charging and Letdown are in operation

START TIME: _____

Data Sheet 1 of OP 2-3200020 "Primary System Manual Calorimetric":		
<p>STEP 1: Date and Time</p> <p>STANDARD: ENTER 8/11/04 and current time.</p> <p>COMMENTS:</p>	<p>_____ SAT</p> <p>_____ UNSAT</p>	
<p>STEP 2: ENTER MAIN STEAM PRESSURE</p> <p>PI-8013A _____</p> <p>PI-8023A _____</p> <p>PI-8013B _____</p> <p>PI-8023B _____</p> <p>PI-8013C _____</p> <p>PI-8023C _____</p> <p>PI-8013D _____</p> <p>PI-8023D _____</p> <p>STANDARD: ENTER correct reads from PIs on RTGB-206 of Simulator Band: (860 – 880)</p> <p style="text-align: center;">Or</p> <p style="text-align: center;">870 for all pressures per classroom data</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>	
<p>STEP 3: COMPUTE TOTAL FEEDWATER FLOW</p> <p>A. Loop _____ x _____ + 29178 = _____ x 10⁶ lb/hr</p> <p style="text-align: center;">(FT9011-2 (ERDADS), or FR 9011) (DCS PT KFA)</p> <p>STANDARD: ENTER and CALCULATE</p> <p>A. Loop 1.56 x 29101 + 29178 = 1.5559 x 10⁶ lb/hr</p> <p style="text-align: center;">(FT9011-2 (ERDADS), or FR 9011) (DCS PT KFA)</p> <p style="text-align: center;">Band: (1.54 – 1.58) Band: (1.53 – 1.58)</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>	

<p>STEP 7: ENTER FEEDWATER TEMPERATURE</p> <p>Speedomax Pt. 1 _____ °F</p> <p>Pt. 2 _____ °F</p> <p>STANDARD: ENTER</p> <p>Speedomax Pt. 1 <u>330</u> °F Band: (328 – 332)</p> <p>Pt. 2 <u>330</u> °F Band: (328 – 332)</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 8: Average Feedwater Temperature = _____ divided by 2 = _____</p> <p style="text-align: center;">TOTAL AVERAGE</p> <p>STANDARD: ENTER and CALCULATE</p> <p>Average Feedwater Temperature = $\frac{660}{\text{TOTAL}}$ divided by 2 = $\frac{330}{\text{AVERAGE}}$</p> <p style="text-align: center;">Band: (656 – 664) Band: (328 – 332)</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 9: From the steam tables, enter the enthalpy of the average steam pressure:</p> <p>$h_{\text{STEAM}} = \text{_____ BTU/lbm}$</p> <p>STANDARD: ENTER</p> <p>$h_{\text{STEAM}} = \underline{1197.36} \text{ BTU/lbm}$</p> <p style="text-align: center;">Band: (1197.04 – 1197.68)</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

<p>STEP 10: Calculate the heat output due to steam flow (Q_{STEAM}):</p> $\frac{\text{h}_{STEAM}}{\text{h}_{STEAM}} \times \frac{\text{[MFW]} \times 10^6 - \text{[MBD]} \times 10^6}{\text{[MFW]} \times 10^6 - \text{[MBD]} \times 10^6} = \frac{\text{Q}_{STEAM}}{\text{Q}_{STEAM}} \times 10^6 \text{ BTU/hr}$ <p>STANDARD: ENTER and CALCULATE</p> $\frac{1197.36}{\text{h}_{STEAM}} \times \frac{3.1317 \times 10^6 - .039599 \times 10^6}{\text{[MFW]} \times 10^6 - \text{[MBD]} \times 10^6} = \frac{3702.36 \times 10^6 \text{ BTU/hr}}{\text{Q}_{STEAM}}$ <p>Band: (3650 – 3750)</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>
<p>STEP 11: From the steam tables, enter the enthalpy of the average feedwater temperature:</p> $\text{h}_{FW} = \frac{\text{BTU}}{\text{lbm}}$ <p>STANDARD: ENTER</p> $\text{h}_{FW} = \frac{300.8 \text{ BTU}}{\text{lbm}}$ <p>Band: (298.7 – 302.9)</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>
<p>STEP 12: Calculate the heat feedwater heat input (Q_{FW}):</p> $\left(\frac{\text{MFW}}{\text{MFW}} \times 10^6 \right) \times \left(\frac{\text{h}_{FW}}{\text{h}_{FW}} \right) = \frac{\text{Q}_{FW}}{\text{Q}_{FW}} \times 10^6 \frac{\text{BTU}}{\text{hr}}$ <p>STANDARD: ENTER and CALCULATE</p> $\left(\frac{3.1317 \times 10^6}{\text{MFW}} \right) \times \left(\frac{300.8}{\text{h}_{FW}} \right) = \frac{942.02 \times 10^6 \text{ BTU}}{\text{Q}_{FW} \text{ hr}}$ <p>Band: (923 – 960)</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>

STEP 13:

Circle the total blowdown flow from the S/Gs and the corresponding heat output:
(Interpolation is not required, circle the closest blowdown flow below)

Total blowdown flow (both steam generators)	Mass flow of blowdown M_{BD}	Heat output from blowdown Q_{BD}
40 GPM	$.019799 \times 10^6 \text{ lbm/hr}$	$9.660 \times 10^6 \text{ BTU/hr}$
80 GPM	$.039599 \times 10^6 \text{ lbm/hr}$	$19.320 \times 10^6 \text{ BTU/hr}$
120 GPM	$.059398 \times 10^6 \text{ lbm/hr}$	$28.981 \times 10^6 \text{ BTU/hr}$
160 GPM	$.079198 \times 10^6 \text{ lbm/hr}$	$38.641 \times 10^6 \text{ BTU/hr}$
200 GPM	$.098997 \times 10^6 \text{ lbm/hr}$	$48.301 \times 10^6 \text{ BTU/hr}$
240 GPM	$.118797 \times 10^6 \text{ lbm/hr}$	$59.961 \times 10^6 \text{ BTU/hr}$

STANDARD: **CIRCLE** 80 GPM line

Total blowdown flow (both steam generators)	Mass flow of blowdown M_{BD}	Heat output from blowdown Q_{BD}
40 GPM	$.019799 \times 10^6 \text{ lbm/hr}$	$9.660 \times 10^6 \text{ BTU/hr}$
80 GPM	$.039599 \times 10^6 \text{ lbm/hr}$	$19.320 \times 10^6 \text{ BTU/hr}$
120 GPM	$.059398 \times 10^6 \text{ lbm/hr}$	$28.981 \times 10^6 \text{ BTU/hr}$
160 GPM	$.079198 \times 10^6 \text{ lbm/hr}$	$38.641 \times 10^6 \text{ BTU/hr}$
200 GPM	$.098997 \times 10^6 \text{ lbm/hr}$	$48.301 \times 10^6 \text{ BTU/hr}$
240 GPM	$.118797 \times 10^6 \text{ lbm/hr}$	$59.961 \times 10^6 \text{ BTU/hr}$

COMMENTS:

_____ SAT

_____ UNSAT

<p>STEP 14: Calculate the heat output from the core: If charging and letdown flow is secured for any reason, use a value of 48.952 for Q_{OTHER}.</p> <p>If charging and letdown flow is operating normally, use a value of 46.905 for Q_{OTHER}.</p> $\left[\frac{\quad}{Q_{STEAM}} - \frac{\quad}{Q_{FW}} + \frac{\quad}{Q_{BD}} - \frac{\quad}{Q_{OTHER}} \right] \times 10^6 \frac{BTU}{hr} = \frac{\quad}{Q_{CORE}} \times 10^6 \frac{BTU}{hr}$ <p>STANDARD: ENTER and CALCULATE</p> $\left[\frac{3702.36}{Q_{STEAM}} - \frac{942.02}{Q_{FW}} + \frac{19.320}{Q_{BD}} - \frac{46.905}{Q_{OTHER}} \right] \times 10^6 \frac{BTU}{hr} = \frac{2732.78}{Q_{CORE}} \times 10^6 \frac{BTU}{hr}$ <p style="text-align: right;">Band: (2662 – 2800)</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>
<p>STEP 15: Calculate percent core power:</p> <p>Core Power = $\frac{\quad}{Q_{CORE}} \times 10^6$ divided by $(92.128 \times 10^6) = \frac{\quad}{\quad} \%$ Manual Calorimetric Power</p> <p>STANDARD: ENTER and CALCULATE</p> <p>Core Power = $\frac{2732.78}{Q_{CORE}} \times 10^6$ divided by $(92.128 \times 10^6) = \frac{29.66}{\quad} \%$ Manual Calorimetric Power</p> <p style="text-align: right;">Band: (28.89 – 30.39)</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>

<p><u>STEP (done):</u> Inform Candidate JPM is complete.</p> <p><u>STANDARD:</u></p> <p>EXAMINER'S CUE: THIS JPM IS COMPLETE.</p> <p><u>COMMENTS:</u></p> <p style="text-align: right;">END OF TASK</p>	<p>____ SAT</p> <p>____ UNSAT</p>
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STOP TIME: _____

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DATA SHEET 1
(Page 1 of 3)

Date: / /

Time: : :

1. ENTER MAIN STEAM PRESSURE

PI-8013A 870
PI-8023A 870
PI-8013B 870
PI-8023B 870
PI-8013C 870
PI-8023C 870
PI-8013D 870
PI-8023D 870

Band: (860-880)

2. COMPUTE TOTAL FEEDWATER FLOW

A. A Loop 1.56 x 29101 + 29178 = 1.5559 x 10⁶ lb/hr
(FT 9011-2 (ERDADS), or FR 9011) (DCS PT KFA)
B. B Loop 1.56 x 29345 + 29050 = 1.5758 x 10⁶ lb/hr
(FT 9021-2 (ERDADS), or FR 9021) (DCS PT KFB)
M_{FW} = 3.1317 x 10⁶ lb/hr
(Total A+B Loop) Band: (3.07-3.17)

Band: (1.53-1.58)

Band: (1.55-1.60)

Average Steam Pressure = 6960 divided by 8 = 870 ← Band: (860-880)
TOTAL AVERAGE

Band: (6880-7040)

ENTER FEEDWATER TEMPERATURE

Speedomax Pt. 1 330 °F ← (328-332)
Pt. 2 330 °F ← (328-332)

Average Feedwater Temperature 660 divided by 2 = 330 ← (328-332)
TOTAL AVERAGE

From the steam tables, enter the enthalpy of the average steam pressure:

$h_{STEAM} = \underline{1197.36}$ BTU/lbm ← Band: (1197.04-1197.68)

Calculate the heat output due to steam flow (Q_{STEAM}):

1197.36 x 3.1317 10⁶ - 0.339597 10⁶ = 3702.36 10⁶ BTU/hr ← Band: (3650-3750)

$h_{STEAM} \times [M_{FW} - M_{BD}] = Q_{STEAM}$

From the steam tables, enter the enthalpy of the average feedwater temperature:

$h_{FW} = \underline{300.8}$ BTU/lbm ← Band: (298.7-302.9)

Calculate the heat feedwater heat input (Q_{FW}):

(3.1317 x 10⁶) x (300.8) = 942.02 x 10⁶ BTU/hr ← Band: (923-960)

$M_{FW} \times h_{FW} = Q_{FW}$

ANSWER KEY (Page 1 of 2)

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DATA SHEET 1

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Circle the total blowdown flow from the S/Gs and the corresponding heat output:
(Interpolation is not required, circle the closest blowdown flow below)

Total blowdown flow (both steam generators)	Mass flow of blowdown M _{BD}	Heat output from blowdown Q _{BD}
40 GPM	.019799 x 10 ⁶ lbm/hr	9.660 x 10 ⁶ BTU/hr
<u>80 GPM</u>	<u>.039599 x 10⁶ lbm/hr</u>	<u>19.320 x 10⁶ BTU/hr</u>
120 GPM	.059398 x 10 ⁶ lbm/hr	28.981 x 10 ⁶ BTU/hr
160 GPM	.079198 x 10 ⁶ lbm/hr	38.641 x 10 ⁶ BTU/hr
200 GPM	.098997 x 10 ⁶ lbm/hr	48.301 x 10 ⁶ BTU/hr
240 GPM	.118797 x 10 ⁶ lbm/hr	59.961 x 10 ⁶ BTU/hr

ANSWER KEY (Page 2 of 2)

Calculate the heat output from the core:

If charging and letdown flow is secured for any reason, use a value of 48.952 for Q_{OTHER}.

If charging and letdown flow is operating normally, use a value of 46.905 for Q_{OTHER}.

$$\frac{[3707.36 - 942.02 + 19.320 - 46.905]}{Q_{STEAM} \quad Q_{FW} \quad Q_{BD} \quad Q_{OTHER}} \times 10^6 \frac{BTU}{hr} = \frac{2732.78 \times 10^6}{Q_{CORE}} \frac{BTU}{hr} \quad \text{Band: } (2062-2000)$$

NOTE

Calculated Power in percent must be within 2% of DCS Calorimetric power.
If not, notify the ANPS/NPS.

Calculate percent core power:

Band: (20.09-30.39)
↓

$$\text{Core Power} = \frac{2732.78 \times 10^6}{Q_{CORE}} \text{ divided by } (92.128 \times 10^6) =$$

29.66 %

Manual
Calorimetric
Power

Record DCS Calorimetric Power (QRP % 10 minute ave), (QRPP (instantaneous) should be used below if the reactor has not been in a stable power configuration for at least 10 minutes):

DCS Calorimetric Power = _____ %

SIMULATOR JPM SETUP

1. **RESTORE** IC-3, 29% power, MOL.
2. **UNFREEZE** simulator.

CANDIDATE COPY
(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF ANSWER)

Initial Conditions

It is Wednesday, 8-11-04. Unit 2 is at approximately 30% power, returning from a Short Notice Outage. A Chemistry hold is in effect until further notice.

Initiating Cue

The Unit Supervisor has instructed you to perform a primary system manual calorimetric IAW 2-3200020. No computers are available to perform this calculation.

**FPL**

ST. LUCIE UNIT 2

OPERATING PROCEDURE

SAFETY RELATED

Procedure No.

2-3200020

Current Revision No.

27

Effective Date

05/23/03

Title:

PRIMARY SYSTEM MANUAL CALORIMETRIC

Responsible Department: **REACTOR ENGINEERING****REVISION SUMMARY:**

Revision 27 - Incorporated PCR 03-1436 for MA 03-05-027 and PSL-ENG-SENS-02-069 to change note at Step 6.4.4 to amend the impact of moisture carryover to less than 0.2% power (due to tube plugging resulting from the U2 C14 S/G tube plugging campaign. (Walt Mead, 05/20/03)

Revision 26 - Incorporated PCR 03-1267 for PCM 02042, PMAI PM03-03-087 & PSL-ENG-SEIJ-03-014 to revise terminology and point descriptions to reflect new DCS and to revise core power conversion factor. (P. Connell, 05/07/03)

Revision 25 - Added step for use of similar forms. (Bruce Smith, 08/27/01)

Revision 24B - Corrected the unit number in the S__OPS stamp. (Joe Hessling, 07/12/01)

Revision 24A - Revise T-cold precaution to be consistent with reactor operating guidelines. (Mike Gilmore, 06/18/01)

Revision 24 - Added correction factors to the venturi feedwater flow valves used in the manual calculation to be consistent with DDPS. (L. Porro, 02/27/01)

Revision 23A - Added information for performance of surveillance reviews. (J. S. Napier, 10/30/00)

Revision 23 - Provided a method of correcting the heat balance calculation for situations where charging and letdown flows are secured. (Walter Mead, 07/20/00)

Revision 0	FRG Review Date 03/08/83	Approved By C. M. Wethy Plant General Manager	Approval Date 03/08/83	S 2 OPS	
				DATE	
				DOCT	PROCEDURE
				DOCN	2-3200020
				SYS	
				COM	COMPLETED
				ITM	27
Revision 27	FRG Review Date	Approved By N/A Plant General Manager J. R. Martin Designated Approver N/A Designated Approver (Minor Correction)	Approval Date 05/20/03		

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1.0 PURPOSE

- 1.1 To provide a method to accurately calculate the reactor thermal power manually under steady state conditions.

2.0 REFERENCES

NOTE

One or more of the following symbols may be used in this procedure:

§ Indicates a Regulatory commitment made by Technical Specifications, Condition of License, Audit, LER, Bulletin, Operating Experience, License Renewal, etc. and shall NOT be revised without Facility Review Group review and Plant General Manager approval.

¶ Indicates a management directive, vendor recommendation, plant practice or other non-regulatory commitment that should NOT be revised without consultation with the plant staff.

Ψ Indicates a step that requires a sign off on an attachment.

2.1 Miscellaneous Documents

- Unit 2 Drawing 2998-G-056-Sh. 2, Heat Balance at Rated Power
- Steam Tables
- PCM 028-295 Installation of an Acoustic Flow Meter for Measuring Feedwater Flow
- ¶ CR 01-0344

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3.0 PREREQUISITES

3.1 The reactor and related equipment should be in a steady state condition with plant power greater than or equal to 20% of Rated Thermal Power.

4.0 PRECAUTIONS / LIMITATIONS

4.1 Reactor power, RCS temperature, steam generator level, blowdown, charging and letdown rates should be maintained as constant as possible during data taking.

4.2 If core power is determined to be above licensed or administrative limits, steps should be taken to reduce it to an acceptable level.

4.3 Any parameters that are determined by redundant inputs should be compared with each other to establish each as a believable or non-believable value.

4.4 T_c should be between 548°F and 548.8°F for operation at rated thermal power.

5.0 RECORDS REQUIRED

5.1 The data sheets from this procedure shall be maintained in the plant files in accordance with QI-17-PSL-1, Quality Assurance Records.

5.2 Forms similar to those contained in this procedure may be used provided they contain all of the essential information as the forms attached.

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6.0 INSTRUCTIONS

6.1 Establish plant conditions per section 3.0

NOTE

Use Data Sheet 1, Manual Calorimetric Calculation, in conjunction with the steps below.

NOTE

Reactor core thermal power shall be determined using the following equation:
 $Q_{CORE} + Q_{FW} + Q_{RCP} + Q_{CH} + Q_{PZR} - Q_{CCW} - Q_{STEAM} - Q_{BD} - Q_{LD} - L = 0$
M is mass flow rate in lbm/hr, h is enthalpy in BTU/lbm

NOTE

The DCS feedwater data points are on the SG 2A (2B) FW BLOWDOWN CALCS screens accessible through the POWER MENU.

6.2 Collect all data as required by Data Sheet 1, Manual Calorimetric Calculation. Record the time the data was taken.

6.3 Compute total feedwater flow, average feedwater temperature and average main steam pressure.

6.4 Compute the net heat output due to steam flow (Q_{STEAM}).

NOTE

$$Q_{STEAM} = (M_{FW} - M_{BD}) \times h_{STEAM}$$

1. Determine the enthalpy for the average main steam pressure (h_{STEAM}).
2. Determine the mass flow of blowdown by using Table 1, Data Sheet 1, to convert GPM to lbm/hr.
3. Subtract blowdown mass flow (M_{BD}) from feedwater mass flow (M_{FW}) to obtain steam flow.
4. Multiply the quantity from step 6.4.3 times the enthalpy from step 6.4.1. This resultant is Q_{STEAM} .

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NOTE

The effect of moisture carryover has been neglected because it is difficult to measure and accounts for less than 0.2% power.

6.5 Compute the feedwater heat input (Q_{FW}).

NOTE

$$Q_{FW} = M_{FW} \times h_{FW}$$

1. Determine the enthalpy for the average feedwater temperature (h_{FW}).
2. Multiply the total feedwater flow (M_{FW}) times h_{FW} (from above). This result is Q_{FW} .

6.6 Determine the Blowdown Heat Output (Q_{BD}).

NOTE

$$Q_{BD} = M_{BD} \times h_{BD}$$

h_{BD} (blowdown enthalpy) is assumed to be constant.

1. Determine total (both S/Gs) blowdown flow rate (M_{BD}), from Table 1 of Data Sheet 1.
2. Enter Table 1 of Data Sheet 1 and determine blowdown heat output (Q_{BD}). (Interpolation is not required.)

6.7 The following is the determination for the constant used to represent other net heat losses and gains (Q_{OTHER}).

$Q_{OTHER} = 46.905 \times 10^6 \text{ BTU/hr}$ ($48.952 \times 10^6 \text{ BTU/hr}$ if charging and letdown flow is secured for maintenance)

NOTE

$$Q_{OTHER} = Q_{RCP} + Q_{CH} + Q_{PZR} - Q_{CCW} - Q_{LD} - L$$

1. The following constant is supplied for the Reactor Coolant Pump heat flow (Q_{RCP}).

$$Q_{RCP} = 55.951 \times 10^6 \text{ BTU/hr}$$

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6.7 (continued)

2. Charging heat input (Q_{CH}) is defined by the equation $Q_{CH} = M_{CH} \times h_{CH}$, where M_{CH} is the mass flow rate and h_{CH} is the enthalpy. The following constant is based on one charging pump operating at a VCT temperature of 105°F.

$$Q_{CH} = 1.174 \times 10^6 \text{ BTU/hr}$$

3. The constant for the net Pressurizer heat input (Q_{PZR}) was determined as a result of Hot Ops II.

$$Q_{PZR} = 0.592 \times 10^6 \text{ BTU/hr}$$

4. The constant for the Component Cooling Water heat output (Q_{CCW}) was determined as a result of Hot Ops II.

$$Q_{CCW} = 0.458 \times 10^6 \text{ BTU/hr}$$

5. Letdown heat flow (Q_{LD}) is defined by the equation $Q_{LD} = M_{LD} \times h_{LD}$, where M_{LD} is the letdown mass flow rate and h_{LD} is the letdown enthalpy. The following constant is based on one charging pump operating with a letdown temperature of 250°F out of the Regenerative Heat Exchanger and 100°F out of the Letdown Heat Exchanger.

$$Q_{LD} = 3.221 \times 10^6 \text{ BTU/hr}$$

6. The following constant is supplied to account for all piping, radiation and other losses (L).

$$L = 7.133 \times 10^6 \text{ BTU/hr}$$

6.8 Calculate the heat output from the core (Q_{CORE}).

NOTE

$$Q_{CORE} = Q_{STEAM} - Q_{FW} + Q_{BD} - Q_{OTHER}$$

6.9 Calculate percent core power

NOTE

$$\text{Core Power (\%)} = Q_{CORE} / 92.128 \times 10^6 \text{ (a conversion factor)}$$

6.10 Complete the attached data sheets, as required.

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7.0 INFREQUENT OPERATIONS

7.1 None

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PROCEDURE NO.: 2-3200020	ST. LUCIE UNIT 2	

DATA SHEET 1

(Page 1 of 3)

Date: ____/____/____

Time: ____

1. ENTER MAIN STEAM PRESSURE

PI-8013A _____

PI-8023A _____

PI-8013B _____

PI-8023B _____

PI-8013C _____

PI-8023C _____

PI-8013D _____

PI-8023D _____

1. COMPUTE TOTAL FEEDWATER FLOW

A. A Loop _____ x _____ + 29178 = _____ x 10⁶ lb/hr
(FT 9011-2 (ERDADS), or FR 9011) (DCS PT KFA)

B. B Loop _____ x _____ + 29050 = _____ x 10⁶ lb/hr
(FT 9021-2 (ERDADS), or FR 9021) (DCS PT KFB)

$M_{FW} = \frac{\text{Total A+B Loop}}{\text{Total A+B Loop}} \times 10^6 \text{ lb/hr}$

Average Steam Pressure = _____ divided by 8 = _____
TOTAL AVERAGE

ENTER FEEDWATER TEMPERATURE

Speedomax Pt. 1 _____ °F

Pt. 2 _____ °F

Average Feedwater Temperature _____ divided by 2 = _____
TOTAL AVERAGE

From the steam tables, enter the enthalpy of the average steam pressure:

$h_{STEAM} = \text{_____ BTU/lbm}$

Calculate the heat output due to steam flow (Q_{STEAM}):

$\frac{\text{_____}}{h_{STEAM}} \times \left[\frac{\text{_____}}{M_{FW}} \times 10^6 - \frac{\text{_____}}{M_{BD}} \times 10^6 \right] = \frac{\text{_____}}{Q_{STEAM}} \times 10^6 \text{ BTU/hr}$

From the steam tables, enter the enthalpy of the average feedwater temperature:

$h_{FW} = \text{_____ BTU/lbm}$

Calculate the heat feedwater heat input (Q_{FW}):

$\left(\frac{\text{_____}}{M_{FW}} \times 10^6 \right) \times \left(\frac{\text{_____}}{h_{FW}} \right) = \frac{\text{_____}}{Q_{FW}} \times 10^6 \text{ BTU/hr}$

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DATA SHEET 1

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Circle the total blowdown flow from the S/Gs and the corresponding heat output:
(Interpolation is not required, circle the closest blowdown flow below)

Total blowdown flow (both steam generators)	Mass flow of blowdown M_{BD}	Heat output from blowdown Q_{BD}
40 GPM	.019799 x 10^6 lbm/hr	9.660 x 10^6 BTU/hr
80 GPM	.039599 x 10^6 lbm/hr	19.320 x 10^6 BTU/hr
120 GPM	.059398 x 10^6 lbm/hr	28.981 x 10^6 BTU/hr
160 GPM	.079198 x 10^6 lbm/hr	38.641 x 10^6 BTU/hr
200 GPM	.098997 x 10^6 lbm/hr	48.301 x 10^6 BTU/hr
240 GPM	.118797 x 10^6 lbm/hr	59.961 x 10^6 BTU/hr

Calculate the heat output from the core:

If charging and letdown flow is secured for any reason, use a value of 48.952 for Q_{OTHER} .

If charging and letdown flow is operating normally, use a value of 46.905 for Q_{OTHER} .

$$\left[\frac{\quad}{Q_{STEAM}} - \frac{\quad}{Q_{FW}} + \frac{\quad}{Q_{BD}} - \frac{\quad}{Q_{OTHER}} \right] \times 10^6 \frac{BTU}{hr} = \frac{\quad}{Q_{CORE}} \times 10^6 \frac{BTU}{hr}$$

NOTE

Calculated Power in percent must be within 2% of DCS Calorimetric power.
If not, notify the ANPS/NPS.

Calculate percent core power:

Core Power = $\frac{\quad \times 10^6}{Q_{CORE}}$ divided by $(92.128 \times 10^6) = \boxed{\quad\%}$ Manual Calorimetric Power

Record DCS Calorimetric Power (QRP % 10 minute ave), (QRPP (instantaneous) should be used below if the reactor has not been in a stable power configuration for at least 10 minutes):

DCS Calorimetric Power = $\quad\%$

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DATA SHEET 1

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2. Every Monday complete Data Sheet 2.

Initial

I have reviewed the requirements of this procedure including other surveillances performed during this procedure, if any (i.e., datasheet(s), PMT sheet(s), etc.). Any deviation(s) found during the performance of this procedure has (have) been listed an appropriate actions and notifications made.

RCO

ANPS/NPS

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DATA SHEET 2
(Page 1 of 1)

NOTE

This data sheet will compare feedwater temperature inputs into DCS calorimetric with feedwater temperature indications used in manual calorimetric.

1. Record feedwater temperature inputs from DCS.

PT T0910A1 _____

PT T0910A2 _____

PT T0910A3 _____

Compare PTs T0910A1 through T0910A3 to be within 2°F, if greater than 2°F notify I&C.

PT T0910B1 _____

PT T0910B2 _____

PT T0910B3 _____

Compare PTs T0910B1 through T0910B3 to be within 2°F, if greater than 2°F notify I&C.

2. Record feedwater temperatures from DCS and from Speedomax.

DCS PT TFA _____ Speedomax PT 1 _____

Ensure feedwater temperatures to be within 5°F or notify I&C and ANPS.

DCS PT TFB _____ Speedomax PT 2 _____

Ensure feedwater temperatures to be within 5°F or notify I&C and ANPS.

I have reviewed the requirements of this procedure including other surveillances performed during this procedure, if any (i.e., datasheet(s), PMT sheet(s), etc.). Any deviation(s) found during the performance of this procedure has (have) been listed and appropriate actions and notifications made.

RCO

ANPS/NPS

STEAM ENTHALPY

780	1199.92	785	1199.79	790	1199.66	795	1199.53
780.1	1199.917	785.1	1199.787	790.1	1199.657	795.1	1199.527
780.2	1199.915	785.2	1199.785	790.2	1199.655	795.2	1199.525
780.3	1199.912	785.3	1199.782	790.3	1199.652	795.3	1199.522
780.4	1199.91	785.4	1199.78	790.4	1199.65	795.4	1199.52
780.5	1199.907	785.5	1199.777	790.5	1199.647	795.5	1199.517
780.6	1199.904	785.6	1199.774	790.6	1199.644	795.6	1199.514
780.7	1199.902	785.7	1199.772	790.7	1199.642	795.7	1199.512
780.8	1199.899	785.8	1199.769	790.8	1199.639	795.8	1199.509
780.9	1199.897	785.9	1199.767	790.9	1199.637	795.9	1199.507
781	1199.894	786	1199.764	791	1199.634	796	1199.504
781.1	1199.891	786.1	1199.761	791.1	1199.631	796.1	1199.501
781.2	1199.889	786.2	1199.759	791.2	1199.629	796.2	1199.499
781.3	1199.886	786.3	1199.756	791.3	1199.626	796.3	1199.496
781.4	1199.884	786.4	1199.754	791.4	1199.624	796.4	1199.494
781.5	1199.881	786.5	1199.751	791.5	1199.621	796.5	1199.491
781.6	1199.878	786.6	1199.748	791.6	1199.618	796.6	1199.488
781.7	1199.876	786.7	1199.746	791.7	1199.616	796.7	1199.486
781.8	1199.873	786.8	1199.743	791.8	1199.613	796.8	1199.483
781.9	1199.871	786.9	1199.741	791.9	1199.611	796.9	1199.481
782	1199.868	787	1199.738	792	1199.608	797	1199.478
782.1	1199.865	787.1	1199.735	792.1	1199.605	797.1	1199.475
782.2	1199.863	787.2	1199.733	792.2	1199.603	797.2	1199.473
782.3	1199.86	787.3	1199.73	792.3	1199.6	797.3	1199.47
782.4	1199.858	787.4	1199.728	792.4	1199.598	797.4	1199.468
782.5	1199.855	787.5	1199.725	792.5	1199.595	797.5	1199.465
782.6	1199.852	787.6	1199.722	792.6	1199.592	797.6	1199.462
782.7	1199.85	787.7	1199.72	792.7	1199.59	797.7	1199.46
782.8	1199.847	787.8	1199.717	792.8	1199.587	797.8	1199.457
782.9	1199.845	787.9	1199.715	792.9	1199.585	797.9	1199.455
783	1199.842	788	1199.712	793	1199.582	798	1199.452
783.1	1199.839	788.1	1199.709	793.1	1199.579	798.1	1199.449
783.2	1199.837	788.2	1199.707	793.2	1199.577	798.2	1199.447
783.3	1199.834	788.3	1199.704	793.3	1199.574	798.3	1199.444
783.4	1199.832	788.4	1199.702	793.4	1199.572	798.4	1199.442
783.5	1199.829	788.5	1199.699	793.5	1199.569	798.5	1199.439
783.6	1199.826	788.6	1199.696	793.6	1199.566	798.6	1199.436
783.7	1199.824	788.7	1199.694	793.7	1199.564	798.7	1199.434
783.8	1199.821	788.8	1199.691	793.8	1199.561	798.8	1199.431
783.9	1199.819	788.9	1199.689	793.9	1199.559	798.9	1199.429
784	1199.816	789	1199.686	794	1199.556	799	1199.426
784.1	1199.813	789.1	1199.683	794.1	1199.553	799.1	1199.423
784.2	1199.811	789.2	1199.681	794.2	1199.551	799.2	1199.421
784.3	1199.808	789.3	1199.678	794.3	1199.548	799.3	1199.418
784.4	1199.806	789.4	1199.676	794.4	1199.546	799.4	1199.416
784.5	1199.803	789.5	1199.673	794.5	1199.543	799.5	1199.413
784.6	1199.8	789.6	1199.67	794.6	1199.54	799.6	1199.41
784.7	1199.798	789.7	1199.668	794.7	1199.538	799.7	1199.408
784.8	1199.795	789.8	1199.665	794.8	1199.535	799.8	1199.405
784.9	1199.793	789.9	1199.663	794.9	1199.533	799.9	1199.403

STEAM ENTHALPY

800	1199.4	805	1199.26	810	1199.12	815	1198.98
800.1	1199.397	805.1	1199.257	810.1	1199.117	815.1	1198.977
800.2	1199.394	805.2	1199.254	810.2	1199.114	815.2	1198.974
800.3	1199.392	805.3	1199.252	810.3	1199.112	815.3	1198.972
800.4	1199.389	805.4	1199.249	810.4	1199.109	815.4	1198.969
800.5	1199.386	805.5	1199.246	810.5	1199.106	815.5	1198.966
800.6	1199.383	805.6	1199.243	810.6	1199.103	815.6	1198.963
800.7	1199.38	805.7	1199.24	810.7	1199.1	815.7	1198.96
800.8	1199.378	805.8	1199.238	810.8	1199.098	815.8	1198.958
800.9	1199.375	805.9	1199.235	810.9	1199.095	815.9	1198.955
801	1199.372	806	1199.232	811	1199.092	816	1198.952
801.1	1199.369	806.1	1199.229	811.1	1199.089	816.1	1198.949
801.2	1199.366	806.2	1199.226	811.2	1199.086	816.2	1198.946
801.3	1199.364	806.3	1199.224	811.3	1199.084	816.3	1198.944
801.4	1199.361	806.4	1199.221	811.4	1199.081	816.4	1198.941
801.5	1199.358	806.5	1199.218	811.5	1199.078	816.5	1198.938
801.6	1199.355	806.6	1199.215	811.6	1199.075	816.6	1198.935
801.7	1199.352	806.7	1199.212	811.7	1199.072	816.7	1198.932
801.8	1199.35	806.8	1199.21	811.8	1199.07	816.8	1198.93
801.9	1199.347	806.9	1199.207	811.9	1199.067	816.9	1198.927
802	1199.344	807	1199.204	812	1199.064	817	1198.924
802.1	1199.341	807.1	1199.201	812.1	1199.061	817.1	1198.921
802.2	1199.338	807.2	1199.198	812.2	1199.058	817.2	1198.918
802.3	1199.336	807.3	1199.196	812.3	1199.056	817.3	1198.916
802.4	1199.333	807.4	1199.193	812.4	1199.053	817.4	1198.913
802.5	1199.33	807.5	1199.19	812.5	1199.05	817.5	1198.91
802.6	1199.327	807.6	1199.187	812.6	1199.047	817.6	1198.907
802.7	1199.324	807.7	1199.184	812.7	1199.044	817.7	1198.904
802.8	1199.322	807.8	1199.182	812.8	1199.042	817.8	1198.902
802.9	1199.319	807.9	1199.179	812.9	1199.039	817.9	1198.899
803	1199.316	808	1199.176	813	1199.036	818	1198.896
803.1	1199.313	808.1	1199.173	813.1	1199.033	818.1	1198.893
803.2	1199.31	808.2	1199.17	813.2	1199.03	818.2	1198.89
803.3	1199.308	808.3	1199.168	813.3	1199.028	818.3	1198.888
803.4	1199.305	808.4	1199.165	813.4	1199.025	818.4	1198.885
803.5	1199.302	808.5	1199.162	813.5	1199.022	818.5	1198.882
803.6	1199.299	808.6	1199.159	813.6	1199.019	818.6	1198.879
803.7	1199.296	808.7	1199.156	813.7	1199.016	818.7	1198.876
803.8	1199.294	808.8	1199.154	813.8	1199.014	818.8	1198.874
803.9	1199.291	808.9	1199.151	813.9	1199.011	818.9	1198.871
804	1199.288	809	1199.148	814	1199.008	819	1198.868
804.1	1199.285	809.1	1199.145	814.1	1199.005	819.1	1198.865
804.2	1199.282	809.2	1199.142	814.2	1199.002	819.2	1198.862
804.3	1199.28	809.3	1199.14	814.3	1199	819.3	1198.86
804.4	1199.277	809.4	1199.137	814.4	1198.997	819.4	1198.857
804.5	1199.274	809.5	1199.134	814.5	1198.994	819.5	1198.854
804.6	1199.271	809.6	1199.131	814.6	1198.991	819.6	1198.851
804.7	1199.268	809.7	1199.128	814.7	1198.988	819.7	1198.848
804.8	1199.266	809.8	1199.126	814.8	1198.986	819.8	1198.846
804.9	1199.263	809.9	1199.123	814.9	1198.983	819.9	1198.843

STEAM ENTHALPY

820	1198.84	825	1198.7	830	1198.56	835	1198.42
820.1	1198.837	825.1	1198.697	830.1	1198.557	835.1	1198.417
820.2	1198.834	825.2	1198.694	830.2	1198.554	835.2	1198.414
820.3	1198.832	825.3	1198.692	830.3	1198.552	835.3	1198.412
820.4	1198.829	825.4	1198.689	830.4	1198.549	835.4	1198.409
820.5	1198.826	825.5	1198.686	830.5	1198.546	835.5	1198.406
820.6	1198.823	825.6	1198.683	830.6	1198.543	835.6	1198.403
820.7	1198.82	825.7	1198.68	830.7	1198.54	835.7	1198.4
820.8	1198.818	825.8	1198.678	830.8	1198.538	835.8	1198.398
820.9	1198.815	825.9	1198.675	830.9	1198.535	835.9	1198.395
821	1198.812	826	1198.672	831	1198.532	836	1198.392
821.1	1198.809	826.1	1198.669	831.1	1198.529	836.1	1198.389
821.2	1198.806	826.2	1198.666	831.2	1198.526	836.2	1198.386
821.3	1198.804	826.3	1198.664	831.3	1198.524	836.3	1198.384
821.4	1198.801	826.4	1198.661	831.4	1198.521	836.4	1198.381
821.5	1198.798	826.5	1198.658	831.5	1198.518	836.5	1198.378
821.6	1198.795	826.6	1198.655	831.6	1198.515	836.6	1198.375
821.7	1198.792	826.7	1198.652	831.7	1198.512	836.7	1198.372
821.8	1198.79	826.8	1198.65	831.8	1198.51	836.8	1198.37
821.9	1198.787	826.9	1198.647	831.9	1198.507	836.9	1198.367
822	1198.784	827	1198.644	832	1198.504	837	1198.364
822.1	1198.781	827.1	1198.641	832.1	1198.501	837.1	1198.361
822.2	1198.778	827.2	1198.638	832.2	1198.498	837.2	1198.358
822.3	1198.776	827.3	1198.636	832.3	1198.496	837.3	1198.356
822.4	1198.773	827.4	1198.633	832.4	1198.493	837.4	1198.353
822.5	1198.77	827.5	1198.63	832.5	1198.49	837.5	1198.35
822.6	1198.767	827.6	1198.627	832.6	1198.487	837.6	1198.347
822.7	1198.764	827.7	1198.624	832.7	1198.484	837.7	1198.344
822.8	1198.762	827.8	1198.622	832.8	1198.482	837.8	1198.342
822.9	1198.759	827.9	1198.619	832.9	1198.479	837.9	1198.339
823	1198.756	828	1198.616	833	1198.476	838	1198.336
823.1	1198.753	828.1	1198.613	833.1	1198.473	838.1	1198.333
823.2	1198.75	828.2	1198.61	833.2	1198.47	838.2	1198.33
823.3	1198.748	828.3	1198.608	833.3	1198.468	838.3	1198.328
823.4	1198.745	828.4	1198.605	833.4	1198.465	838.4	1198.325
823.5	1198.742	828.5	1198.602	833.5	1198.462	838.5	1198.322
823.6	1198.739	828.6	1198.599	833.6	1198.459	838.6	1198.319
823.7	1198.736	828.7	1198.596	833.7	1198.456	838.7	1198.316
823.8	1198.734	828.8	1198.594	833.8	1198.454	838.8	1198.314
823.9	1198.731	828.9	1198.591	833.9	1198.451	838.9	1198.311
824	1198.728	829	1198.588	834	1198.448	839	1198.308
824.1	1198.725	829.1	1198.585	834.1	1198.445	839.1	1198.305
824.2	1198.722	829.2	1198.582	834.2	1198.442	839.2	1198.302
824.3	1198.72	829.3	1198.58	834.3	1198.44	839.3	1198.3
824.4	1198.717	829.4	1198.577	834.4	1198.437	839.4	1198.297
824.5	1198.714	829.5	1198.574	834.5	1198.434	839.5	1198.294
824.6	1198.711	829.6	1198.571	834.6	1198.431	839.6	1198.291
824.7	1198.708	829.7	1198.568	834.7	1198.428	839.7	1198.288
824.8	1198.706	829.8	1198.566	834.8	1198.426	839.8	1198.286
824.9	1198.703	829.9	1198.563	834.9	1198.423	839.9	1198.283

STEAM ENTHALPY

840	1198.28	845	1198.14	850	1198	855	1197.84
840.1	1198.277	845.1	1198.137	850.1	1197.997	855.1	1197.837
840.2	1198.274	845.2	1198.134	850.2	1197.994	855.2	1197.834
840.3	1198.272	845.3	1198.132	850.3	1197.99	855.3	1197.83
840.4	1198.269	845.4	1198.129	850.4	1197.987	855.4	1197.827
840.5	1198.266	845.5	1198.126	850.5	1197.984	855.5	1197.824
840.6	1198.263	845.6	1198.123	850.6	1197.981	855.6	1197.821
840.7	1198.26	845.7	1198.12	850.7	1197.978	855.7	1197.818
840.8	1198.258	845.8	1198.118	850.8	1197.974	855.8	1197.814
840.9	1198.255	845.9	1198.115	850.9	1197.971	855.9	1197.811
841	1198.252	846	1198.112	851	1197.968	856	1197.808
841.1	1198.249	846.1	1198.109	851.1	1197.965	856.1	1197.805
841.2	1198.246	846.2	1198.106	851.2	1197.962	856.2	1197.802
841.3	1198.244	846.3	1198.104	851.3	1197.958	856.3	1197.798
841.4	1198.241	846.4	1198.101	851.4	1197.955	856.4	1197.795
841.5	1198.238	846.5	1198.098	851.5	1197.952	856.5	1197.792
841.6	1198.235	846.6	1198.095	851.6	1197.949	856.6	1197.789
841.7	1198.232	846.7	1198.092	851.7	1197.946	856.7	1197.786
841.8	1198.23	846.8	1198.09	851.8	1197.942	856.8	1197.782
841.9	1198.227	846.9	1198.087	851.9	1197.939	856.9	1197.779
842	1198.224	847	1198.084	852	1197.936	857	1197.776
842.1	1198.221	847.1	1198.081	852.1	1197.933	857.1	1197.773
842.2	1198.218	847.2	1198.078	852.2	1197.93	857.2	1197.77
842.3	1198.216	847.3	1198.076	852.3	1197.926	857.3	1197.766
842.4	1198.213	847.4	1198.073	852.4	1197.923	857.4	1197.763
842.5	1198.21	847.5	1198.07	852.5	1197.92	857.5	1197.76
842.6	1198.207	847.6	1198.067	852.6	1197.917	857.6	1197.757
842.7	1198.204	847.7	1198.064	852.7	1197.914	857.7	1197.754
842.8	1198.202	847.8	1198.062	852.8	1197.91	857.8	1197.75
842.9	1198.199	847.9	1198.059	852.9	1197.907	857.9	1197.747
843	1198.196	848	1198.056	853	1197.904	858	1197.744
843.1	1198.193	848.1	1198.053	853.1	1197.901	858.1	1197.741
843.2	1198.19	848.2	1198.05	853.2	1197.898	858.2	1197.738
843.3	1198.188	848.3	1198.048	853.3	1197.894	858.3	1197.734
843.4	1198.185	848.4	1198.045	853.4	1197.891	858.4	1197.731
843.5	1198.182	848.5	1198.042	853.5	1197.888	858.5	1197.728
843.6	1198.179	848.6	1198.039	853.6	1197.885	858.6	1197.725
843.7	1198.176	848.7	1198.036	853.7	1197.882	858.7	1197.722
843.8	1198.174	848.8	1198.034	853.8	1197.878	858.8	1197.718
843.9	1198.171	848.9	1198.031	853.9	1197.875	858.9	1197.715
844	1198.168	849	1198.028	854	1197.872	859	1197.712
844.1	1198.165	849.1	1198.025	854.1	1197.869	859.1	1197.709
844.2	1198.162	849.2	1198.022	854.2	1197.866	859.2	1197.706
844.3	1198.16	849.3	1198.02	854.3	1197.862	859.3	1197.702
844.4	1198.157	849.4	1198.017	854.4	1197.859	859.4	1197.699
844.5	1198.154	849.5	1198.014	854.5	1197.856	859.5	1197.696
844.6	1198.151	849.6	1198.011	854.6	1197.853	859.6	1197.693
844.7	1198.148	849.7	1198.008	854.7	1197.85	859.7	1197.69
844.8	1198.146	849.8	1198.006	854.8	1197.846	859.8	1197.686
844.9	1198.143	849.9	1198.003	854.9	1197.843	859.9	1197.683

STEAM ENTHALPY

860	1197.68	865	1197.52	870	1197.36	875	1197.2
860.1	1197.677	865.1	1197.517	870.1	1197.357	875.1	1197.197
860.2	1197.674	865.2	1197.514	870.2	1197.354	875.2	1197.194
860.3	1197.67	865.3	1197.51	870.3	1197.35	875.3	1197.19
860.4	1197.667	865.4	1197.507	870.4	1197.347	875.4	1197.187
860.5	1197.664	865.5	1197.504	870.5	1197.344	875.5	1197.184
860.6	1197.661	865.6	1197.501	870.6	1197.341	875.6	1197.181
860.7	1197.658	865.7	1197.498	870.7	1197.338	875.7	1197.178
860.8	1197.654	865.8	1197.494	870.8	1197.334	875.8	1197.174
860.9	1197.651	865.9	1197.491	870.9	1197.331	875.9	1197.171
861	1197.648	866	1197.488	871	1197.328	876	1197.168
861.1	1197.645	866.1	1197.485	871.1	1197.325	876.1	1197.165
861.2	1197.642	866.2	1197.482	871.2	1197.322	876.2	1197.162
861.3	1197.638	866.3	1197.478	871.3	1197.318	876.3	1197.158
861.4	1197.635	866.4	1197.475	871.4	1197.315	876.4	1197.155
861.5	1197.632	866.5	1197.472	871.5	1197.312	876.5	1197.152
861.6	1197.629	866.6	1197.469	871.6	1197.309	876.6	1197.149
861.7	1197.626	866.7	1197.466	871.7	1197.306	876.7	1197.146
861.8	1197.622	866.8	1197.462	871.8	1197.302	876.8	1197.142
861.9	1197.619	866.9	1197.459	871.9	1197.299	876.9	1197.139
862	1197.616	867	1197.456	872	1197.296	877	1197.136
862.1	1197.613	867.1	1197.453	872.1	1197.293	877.1	1197.133
862.2	1197.61	867.2	1197.45	872.2	1197.29	877.2	1197.13
862.3	1197.606	867.3	1197.446	872.3	1197.286	877.3	1197.126
862.4	1197.603	867.4	1197.443	872.4	1197.283	877.4	1197.123
862.5	1197.6	867.5	1197.44	872.5	1197.28	877.5	1197.12
862.6	1197.597	867.6	1197.437	872.6	1197.277	877.6	1197.117
862.7	1197.594	867.7	1197.434	872.7	1197.274	877.7	1197.114
862.8	1197.59	867.8	1197.43	872.8	1197.27	877.8	1197.11
862.9	1197.587	867.9	1197.427	872.9	1197.267	877.9	1197.107
863	1197.584	868	1197.424	873	1197.264	878	1197.104
863.1	1197.581	868.1	1197.421	873.1	1197.261	878.1	1197.101
863.2	1197.578	868.2	1197.418	873.2	1197.258	878.2	1197.098
863.3	1197.574	868.3	1197.414	873.3	1197.254	878.3	1197.094
863.4	1197.571	868.4	1197.411	873.4	1197.251	878.4	1197.091
863.5	1197.568	868.5	1197.408	873.5	1197.248	878.5	1197.088
863.6	1197.565	868.6	1197.405	873.6	1197.245	878.6	1197.085
863.7	1197.562	868.7	1197.402	873.7	1197.242	878.7	1197.082
863.8	1197.558	868.8	1197.398	873.8	1197.238	878.8	1197.078
863.9	1197.555	868.9	1197.395	873.9	1197.235	878.9	1197.075
864	1197.552	869	1197.392	874	1197.232	879	1197.072
864.1	1197.549	869.1	1197.389	874.1	1197.229	879.1	1197.069
864.2	1197.546	869.2	1197.386	874.2	1197.226	879.2	1197.066
864.3	1197.542	869.3	1197.382	874.3	1197.222	879.3	1197.062
864.4	1197.539	869.4	1197.379	874.4	1197.219	879.4	1197.059
864.5	1197.536	869.5	1197.376	874.5	1197.216	879.5	1197.056
864.6	1197.533	869.6	1197.373	874.6	1197.213	879.6	1197.053
864.7	1197.53	869.7	1197.37	874.7	1197.21	879.7	1197.05
864.8	1197.526	869.8	1197.366	874.8	1197.206	879.8	1197.046
864.9	1197.523	869.9	1197.363	874.9	1197.203	879.9	1197.043

STEAM ENTHALPY

880	1197.04	885	1196.88	890	1196.72	895	1196.56
880.1	1197.037	885.1	1196.877	890.1	1196.717	895.1	1196.557
880.2	1197.034	885.2	1196.874	890.2	1196.714	895.2	1196.554
880.3	1197.03	885.3	1196.87	890.3	1196.71	895.3	1196.55
880.4	1197.027	885.4	1196.867	890.4	1196.707	895.4	1196.547
880.5	1197.024	885.5	1196.864	890.5	1196.704	895.5	1196.544
880.6	1197.021	885.6	1196.861	890.6	1196.701	895.6	1196.541
880.7	1197.018	885.7	1196.858	890.7	1196.698	895.7	1196.538
880.8	1197.014	885.8	1196.854	890.8	1196.694	895.8	1196.534
880.9	1197.011	885.9	1196.851	890.9	1196.691	895.9	1196.531
881	1197.008	886	1196.848	891	1196.688	896	1196.528
881.1	1197.005	886.1	1196.845	891.1	1196.685	896.1	1196.525
881.2	1197.002	886.2	1196.842	891.2	1196.682	896.2	1196.522
881.3	1196.998	886.3	1196.838	891.3	1196.678	896.3	1196.518
881.4	1196.995	886.4	1196.835	891.4	1196.675	896.4	1196.515
881.5	1196.992	886.5	1196.832	891.5	1196.672	896.5	1196.512
881.6	1196.989	886.6	1196.829	891.6	1196.669	896.6	1196.509
881.7	1196.986	886.7	1196.826	891.7	1196.666	896.7	1196.506
881.8	1196.982	886.8	1196.822	891.8	1196.662	896.8	1196.502
881.9	1196.979	886.9	1196.819	891.9	1196.659	896.9	1196.499
882	1196.976	887	1196.816	892	1196.656	897	1196.496
882.1	1196.973	887.1	1196.813	892.1	1196.653	897.1	1196.493
882.2	1196.97	887.2	1196.81	892.2	1196.65	897.2	1196.49
882.3	1196.966	887.3	1196.806	892.3	1196.646	897.3	1196.486
882.4	1196.963	887.4	1196.803	892.4	1196.643	897.4	1196.483
882.5	1196.96	887.5	1196.8	892.5	1196.64	897.5	1196.48
882.6	1196.957	887.6	1196.797	892.6	1196.637	897.6	1196.477
882.7	1196.954	887.7	1196.794	892.7	1196.634	897.7	1196.474
882.8	1196.95	887.8	1196.79	892.8	1196.63	897.8	1196.47
882.9	1196.947	887.9	1196.787	892.9	1196.627	897.9	1196.467
883	1196.944	888	1196.784	893	1196.624	898	1196.464
883.1	1196.941	888.1	1196.781	893.1	1196.621	898.1	1196.461
883.2	1196.938	888.2	1196.778	893.2	1196.618	898.2	1196.458
883.3	1196.934	888.3	1196.774	893.3	1196.614	898.3	1196.454
883.4	1196.931	888.4	1196.771	893.4	1196.611	898.4	1196.451
883.5	1196.928	888.5	1196.768	893.5	1196.608	898.5	1196.448
883.6	1196.925	888.6	1196.765	893.6	1196.605	898.6	1196.445
883.7	1196.922	888.7	1196.762	893.7	1196.602	898.7	1196.442
883.8	1196.918	888.8	1196.758	893.8	1196.598	898.8	1196.438
883.9	1196.915	888.9	1196.755	893.9	1196.595	898.9	1196.435
884	1196.912	889	1196.752	894	1196.592	899	1196.432
884.1	1196.909	889.1	1196.749	894.1	1196.589	899.1	1196.429
884.2	1196.906	889.2	1196.746	894.2	1196.586	899.2	1196.426
884.3	1196.902	889.3	1196.742	894.3	1196.582	899.3	1196.422
884.4	1196.899	889.4	1196.739	894.4	1196.579	899.4	1196.419
884.5	1196.896	889.5	1196.736	894.5	1196.576	899.5	1196.416
884.6	1196.893	889.6	1196.733	894.6	1196.573	899.6	1196.413
884.7	1196.89	889.7	1196.73	894.7	1196.57	899.7	1196.41
884.8	1196.886	889.8	1196.726	894.8	1196.566	899.8	1196.406
884.9	1196.883	889.9	1196.723	894.9	1196.563	899.9	1196.403

STEAM ENTHALPY

900	1196.4	905	1196.23
900.1	1196.397	905.1	1196.227
900.2	1196.393	905.2	1196.223
900.3	1196.39	905.3	1196.22
900.4	1196.386	905.4	1196.216
900.5	1196.383	905.5	1196.213
900.6	1196.38	905.6	1196.21
900.7	1196.376	905.7	1196.206
900.8	1196.373	905.8	1196.203
900.9	1196.369	905.9	1196.199
901	1196.366	906	1196.196
901.1	1196.363	906.1	1196.193
901.2	1196.359	906.2	1196.189
901.3	1196.356	906.3	1196.186
901.4	1196.352	906.4	1196.182
901.5	1196.349	906.5	1196.179
901.6	1196.346	906.6	1196.176
901.7	1196.342	906.7	1196.172
901.8	1196.339	906.8	1196.169
901.9	1196.335	906.9	1196.165
902	1196.332	907	1196.162
902.1	1196.329	907.1	1196.159
902.2	1196.325	907.2	1196.155
902.3	1196.322	907.3	1196.152
902.4	1196.318	907.4	1196.148
902.5	1196.315	907.5	1196.145
902.6	1196.312	907.6	1196.142
902.7	1196.308	907.7	1196.138
902.8	1196.305	907.8	1196.135
902.9	1196.301	907.9	1196.131
903	1196.298	908	1196.128
903.1	1196.295	908.1	1196.125
903.2	1196.291	908.2	1196.121
903.3	1196.288	908.3	1196.118
903.4	1196.284	908.4	1196.114
903.5	1196.281	908.5	1196.111
903.6	1196.278	908.6	1196.108
903.7	1196.274	908.7	1196.104
903.8	1196.271	908.8	1196.101
903.9	1196.267	908.9	1196.097
904	1196.264	909	1196.094
904.1	1196.261	909.1	1196.091
904.2	1196.257	909.2	1196.087
904.3	1196.254	909.3	1196.084
904.4	1196.25	909.4	1196.08
904.5	1196.247	909.5	1196.077
904.6	1196.244	909.6	1196.074
904.7	1196.24	909.7	1196.07
904.8	1196.237	909.8	1196.067
904.9	1196.233	909.9	1196.063

ENTHALPY TABLES

Sheet 1

Steam Generator Pressure

Saturated Liquid/Vapor
Enthalpy

<u>PSIA</u>	<u>h_f</u>	<u>h_g</u>
823	513.756	1198.756
824	513.928	1198.728
825	514.100	1198.700
826	514.272	1198.672
827	514.444	1198.644
828	514.616	1198.616
829	514.788	1198.588
830	514.960	1198.560
831	515.132	1198.532
832	515.304	1198.504
833	515.476	1198.476
834	515.648	1198.448
835	515.820	1198.420
836	515.992	1198.392
837	516.164	1198.364
838	516.336	1198.336
839	516.508	1198.308
840	516.680	1198.280
841	516.852	1198.252
842	517.024	1198.224
843	517.196	1198.196
844	517.368	1198.168
845	517.540	1198.140
846	517.712	1198.112
847	517.884	1198.084
848	518.056	1198.056
849	518.228	1198.028
850	518.400	1198.000

Operations Supervisor

Date 2/23/84

PSIA

hg

Sheet 2

851	1197.968
852	1197.936
853	1197.904
854	1197.872
855	1197.840
856	1197.808
857	1197.776
858	1197.744
859	1197.712
860	1197.680
861	1197.648
862	1197.616
863	1197.584
864	1197.552
865	1197.520
866	1197.488
867	1197.456
868	1197.424
869	1197.392
870	1197.360
871	1197.328
872	1197.296
873	1197.264
874	1197.232
875	1197.200
876	1197.168
877	1197.136
878	1197.104
879	1197.072
880	1197.040
881	1197.008
882	1196.976
883	1196.944
884	1196.912
885	1196.880
886	1196.848
887	1196.816

Operations Supervisor

Date

2/23/84

PSIA

hg

Sheet 3

888	1196.784
889	1196.752
890	1196.720
891	1196.688
892	1196.656
893	1196.624
894	1196.592
895	1196.560
896	1196.528
897	1196.496
898	1196.464

899

900

901

902

903

904

905

906

Operations Supervisor

1196.212

DA Sagan

Date 2/23/84

10

Press. 898	Hg.	1196.467
Press. 899	Hg.	1196.434
Press. 900	Hg.	1196.4
Press. 901	Hg.	1196.367
Press. 902	Hg.	1196.333
Press. 903	Hg.	1196.299
Press. 904	Hg.	1196.265
Press. 905	Hg.	1196.232
Press. 906	Hg.	1196.198
Press. 907	Hg.	1196.164
Press. 908	Hg.	1196.13
Press. 909	Hg.	1196.096
Press. 9012	Hg.	1.832761E+10
Press. 910	Hg.	1196.062
Press. 911	Hg.	1196.028
Press. 902	Hg.	1196.333
Press. 913	Hg.	1195.96
Press. 914	Hg.	1195.926
Press. 915	Hg.	1195.893

FEEDWATER ENTHALPY

260	228.76	265	233.85	270	238.95	275	244.0575
260.1	228.8618	265.1	233.952	270.1	239.052	275.1	244.1598
260.2	228.9635	265.2	234.054	270.2	239.154	275.2	244.262
260.3	229.0653	265.3	234.156	270.3	239.256	275.3	244.3643
260.4	229.167	265.4	234.258	270.4	239.358	275.4	244.4665
260.5	229.2688	265.5	234.36	270.5	239.46	275.5	244.5688
260.6	229.3705	265.6	234.462	270.6	239.562	275.6	244.671
260.7	229.4723	265.7	234.564	270.7	239.664	275.7	244.7733
260.8	229.574	265.8	234.666	270.8	239.766	275.8	244.8755
260.9	229.6758	265.9	234.768	270.9	239.868	275.9	244.9778
261	229.7775	266	234.87	271	239.97	276	245.08
261.1	229.8793	266.1	234.972	271.1	240.072	276.1	245.1823
261.2	229.981	266.2	235.074	271.2	240.174	276.2	245.2845
261.3	230.0828	266.3	235.176	271.3	240.276	276.3	245.3868
261.4	230.1845	266.4	235.278	271.4	240.378	276.4	245.489
261.5	230.2863	266.5	235.38	271.5	240.48	276.5	245.5913
261.6	230.388	266.6	235.482	271.6	240.582	276.6	245.6935
261.7	230.4898	266.7	235.584	271.7	240.684	276.7	245.7958
261.8	230.5915	266.8	235.686	271.8	240.786	276.8	245.898
261.9	230.6933	266.9	235.788	271.9	240.888	276.9	246.0003
262	230.795	267	235.89	272	240.99	277	246.1025
262.1	230.8968	267.1	235.992	272.1	241.0923	277.1	246.2048
262.2	230.9985	267.2	236.094	272.2	241.1945	277.2	246.307
262.3	231.1003	267.3	236.196	272.3	241.2968	277.3	246.4093
262.4	231.202	267.4	236.298	272.4	241.399	277.4	246.5115
262.5	231.3038	267.5	236.4	272.5	241.5013	277.5	246.6138
262.6	231.4055	267.6	236.502	272.6	241.6035	277.6	246.716
262.7	231.5073	267.7	236.604	272.7	241.7058	277.7	246.8183
262.8	231.609	267.8	236.706	272.8	241.808	277.8	246.9205
262.9	231.7108	267.9	236.808	272.9	241.9103	277.9	247.0228
263	231.8125	268	236.91	273	242.0125	278	247.125
263.1	231.9143	268.1	237.012	273.1	242.1148	278.1	247.2273
263.2	232.016	268.2	237.114	273.2	242.217	278.2	247.3295
263.3	232.1178	268.3	237.216	273.3	242.3193	278.3	247.4318
263.4	232.2195	268.4	237.318	273.4	242.4215	278.4	247.534
263.5	232.3213	268.5	237.42	273.5	242.5238	278.5	247.6363
263.6	232.423	268.6	237.522	273.6	242.626	278.6	247.7385
263.7	232.5248	268.7	237.624	273.7	242.7283	278.7	247.8408
263.8	232.6265	268.8	237.726	273.8	242.8305	278.8	247.943
263.9	232.7283	268.9	237.828	273.9	242.9328	278.9	248.0453
264	232.83	269	237.93	274	243.035	279	248.1475
264.1	232.932	269.1	238.032	274.1	243.1373	279.1	248.2498
264.2	233.034	269.2	238.134	274.2	243.2395	279.2	248.352
264.3	233.136	269.3	238.236	274.3	243.3418	279.3	248.4543
264.4	233.238	269.4	238.338	274.4	243.444	279.4	248.5565
264.5	233.34	269.5	238.44	274.5	243.5463	279.5	248.6588
264.6	233.442	269.6	238.542	274.6	243.6485	279.6	248.761
264.7	233.544	269.7	238.644	274.7	243.7508	279.7	248.8633
264.8	233.646	269.8	238.746	274.8	243.853	279.8	248.9655
264.9	233.748	269.9	238.848	274.9	243.9553	279.9	249.0678

FEEDWATER ENTHALPY

280	249.17	285	254.325	290	259.45	295	264.575
280.1	249.2733	285.1	254.4275	290.1	259.5525	295.1	264.6775
280.2	249.3765	285.2	254.53	290.2	259.655	295.2	264.78
280.3	249.4798	285.3	254.6325	290.3	259.7575	295.3	264.8825
280.4	249.583	285.4	254.735	290.4	259.86	295.4	264.985
280.5	249.6863	285.5	254.8375	290.5	259.9625	295.5	265.0875
280.6	249.7895	285.6	254.94	290.6	260.065	295.6	265.19
280.7	249.8928	285.7	255.0425	290.7	260.1675	295.7	265.2925
280.8	249.996	285.8	255.145	290.8	260.27	295.8	265.395
280.9	250.0993	285.9	255.2475	290.9	260.3725	295.9	265.4975
281	250.2025	286	255.35	291	260.475	296	265.6
281.1	250.3058	286.1	255.4525	291.1	260.5775	296.1	265.7025
281.2	250.409	286.2	255.555	291.2	260.68	296.2	265.805
281.3	250.5123	286.3	255.6575	291.3	260.7825	296.3	265.9075
281.4	250.6155	286.4	255.76	291.4	260.885	296.4	266.01
281.5	250.7188	286.5	255.8625	291.5	260.9875	296.5	266.1125
281.6	250.822	286.6	255.965	291.6	261.09	296.6	266.215
281.7	250.9253	286.7	256.0675	291.7	261.1925	296.7	266.3175
281.8	251.0285	286.8	256.17	291.8	261.295	296.8	266.42
281.9	251.1318	286.9	256.2725	291.9	261.3975	296.9	266.5225
282	251.235	287	256.375	292	261.5	297	266.625
282.1	251.3383	287.1	256.4775	292.1	261.6025	297.1	266.7275
282.2	251.4415	287.2	256.58	292.2	261.705	297.2	266.83
282.3	251.5448	287.3	256.6825	292.3	261.8075	297.3	266.9325
282.4	251.648	287.4	256.785	292.4	261.91	297.4	267.035
282.5	251.7513	287.5	256.8875	292.5	262.0125	297.5	267.1375
282.6	251.8545	287.6	256.99	292.6	262.115	297.6	267.24
282.7	251.9578	287.7	257.0925	292.7	262.2175	297.7	267.3425
282.8	252.061	287.8	257.195	292.8	262.32	297.8	267.445
282.9	252.1643	287.9	257.2975	292.9	262.4225	297.9	267.5475
283	252.2675	288	257.4	293	262.525	298	267.65
283.1	252.3708	288.1	257.5025	293.1	262.6275	298.1	267.7525
283.2	252.474	288.2	257.605	293.2	262.73	298.2	267.855
283.3	252.5773	288.3	257.7075	293.3	262.8325	298.3	267.9575
283.4	252.6805	288.4	257.81	293.4	262.935	298.4	268.06
283.5	252.7838	288.5	257.9125	293.5	263.0375	298.5	268.1625
283.6	252.887	288.6	258.015	293.6	263.14	298.6	268.265
283.7	252.9903	288.7	258.1175	293.7	263.2425	298.7	268.3675
283.8	253.0935	288.8	258.22	293.8	263.345	298.8	268.47
283.9	253.1968	288.9	258.3225	293.9	263.4475	298.9	268.5725
284	253.3	289	258.425	294	263.55	299	268.675
284.1	253.4025	289.1	258.5275	294.1	263.6525	299.1	268.7775
284.2	253.505	289.2	258.63	294.2	263.755	299.2	268.88
284.3	253.6075	289.3	258.7325	294.3	263.8575	299.3	268.9825
284.4	253.71	289.4	258.835	294.4	263.96	299.4	269.085
284.5	253.8125	289.5	258.9375	294.5	264.0625	299.5	269.1875
284.6	253.915	289.6	259.04	294.6	264.165	299.6	269.29
284.7	254.0175	289.7	259.1425	294.7	264.2675	299.7	269.3925
284.8	254.12	289.8	259.245	294.8	264.37	299.8	269.495
284.9	254.2225	289.9	259.3475	294.9	264.4725	299.9	269.5975

FEEDWATER ENTHALPY

300	269.7	305	274.85	310	280.05	315	285.25
300.1	269.8025	305.1	274.955	310.1	280.1525	315.1	285.355
300.2	269.905	305.2	275.06	310.2	280.255	315.2	285.46
300.3	270.0075	305.3	275.165	310.3	280.3575	315.3	285.565
300.4	270.11	305.4	275.27	310.4	280.46	315.4	285.67
300.5	270.2125	305.5	275.375	310.5	280.5625	315.5	285.775
300.6	270.315	305.6	275.48	310.6	280.665	315.6	285.88
300.7	270.4175	305.7	275.585	310.7	280.7675	315.7	285.985
300.8	270.52	305.8	275.69	310.8	280.87	315.8	286.09
300.9	270.6225	305.9	275.795	310.9	280.9725	315.9	286.195
301	270.725	306	275.9	311	281.075	316	286.3
301.1	270.8275	306.1	276.005	311.1	281.1775	316.1	286.4025
301.2	270.93	306.2	276.11	311.2	281.28	316.2	286.505
301.3	271.0325	306.3	276.215	311.3	281.3825	316.3	286.6075
301.4	271.135	306.4	276.32	311.4	281.485	316.4	286.71
301.5	271.2375	306.5	276.425	311.5	281.5875	316.5	286.8125
301.6	271.34	306.6	276.53	311.6	281.69	316.6	286.915
301.7	271.4425	306.7	276.635	311.7	281.7925	316.7	287.0175
301.8	271.545	306.8	276.74	311.8	281.895	316.8	287.12
301.9	271.6475	306.9	276.845	311.9	281.9975	316.9	287.2225
302	271.75	307	276.95	312	282.1	317	287.325
302.1	271.8525	307.1	277.055	312.1	282.205	317.1	287.4275
302.2	271.955	307.2	277.16	312.2	282.31	317.2	287.53
302.3	272.0575	307.3	277.265	312.3	282.415	317.3	287.6325
302.4	272.16	307.4	277.37	312.4	282.52	317.4	287.735
302.5	272.2625	307.5	277.475	312.5	282.625	317.5	287.8375
302.6	272.365	307.6	277.58	312.6	282.73	317.6	287.94
302.7	272.4675	307.7	277.685	312.7	282.835	317.7	288.0425
302.8	272.57	307.8	277.79	312.8	282.94	317.8	288.145
302.9	272.6725	307.9	277.895	312.9	283.045	317.9	288.2475
303	272.775	308	278	313	283.15	318	288.35
303.1	272.8775	308.1	278.1025	313.1	283.255	318.1	288.4525
303.2	272.98	308.2	278.205	313.2	283.36	318.2	288.555
303.3	273.0825	308.3	278.3075	313.3	283.465	318.3	288.6575
303.4	273.185	308.4	278.41	313.4	283.57	318.4	288.76
303.5	273.2875	308.5	278.5125	313.5	283.675	318.5	288.8625
303.6	273.39	308.6	278.615	313.6	283.78	318.6	288.965
303.7	273.4925	308.7	278.7175	313.7	283.885	318.7	289.0675
303.8	273.595	308.8	278.82	313.8	283.99	318.8	289.17
303.9	273.6975	308.9	278.9225	313.9	284.095	318.9	289.2725
304	273.8	309	279.025	314	284.2	319	289.375
304.1	273.905	309.1	279.1275	314.1	284.305	319.1	289.4775
304.2	274.01	309.2	279.23	314.2	284.41	319.2	289.58
304.3	274.115	309.3	279.3325	314.3	284.515	319.3	289.6825
304.4	274.22	309.4	279.435	314.4	284.62	319.4	289.785
304.5	274.325	309.5	279.5375	314.5	284.725	319.5	289.8875
304.6	274.43	309.6	279.64	314.6	284.83	319.6	289.99
304.7	274.535	309.7	279.7425	314.7	284.935	319.7	290.0925
304.8	274.64	309.8	279.845	314.8	285.04	319.8	290.195
304.9	274.745	309.9	279.9475	314.9	285.145	319.9	290.2975

FEEDWATER ENTHALPY

320	290.4	325	295.625	330	300.8	335	306.05
320.1	290.505	325.1	295.7275	330.1	300.905	335.1	306.155
320.2	290.61	325.2	295.83	330.2	301.01	335.2	306.26
320.3	290.715	325.3	295.9325	330.3	301.115	335.3	306.365
320.4	290.82	325.4	296.035	330.4	301.22	335.4	306.47
320.5	290.925	325.5	296.1375	330.5	301.325	335.5	306.575
320.6	291.03	325.6	296.24	330.6	301.43	335.6	306.68
320.7	291.135	325.7	296.3425	330.7	301.535	335.7	306.785
320.8	291.24	325.8	296.445	330.8	301.64	335.8	306.89
320.9	291.345	325.9	296.5475	330.9	301.745	335.9	306.995
321	291.45	326	296.65	331	301.85	336	307.1
321.1	291.555	326.1	296.7525	331.1	301.955	336.1	307.205
321.2	291.66	326.2	296.855	331.2	302.06	336.2	307.31
321.3	291.765	326.3	296.9575	331.3	302.165	336.3	307.415
321.4	291.87	326.4	297.06	331.4	302.27	336.4	307.52
321.5	291.975	326.5	297.1625	331.5	302.375	336.5	307.625
321.6	292.08	326.6	297.265	331.6	302.48	336.6	307.73
321.7	292.185	326.7	297.3675	331.7	302.585	336.7	307.835
321.8	292.29	326.8	297.47	331.8	302.69	336.8	307.94
321.9	292.395	326.9	297.5725	331.9	302.795	336.9	308.045
322	292.5	327	297.675	332	302.9	337	308.15
322.1	292.605	327.1	297.7775	332.1	303.005	337.1	308.255
322.2	292.71	327.2	297.88	332.2	303.11	337.2	308.36
322.3	292.815	327.3	297.9825	332.3	303.215	337.3	308.465
322.4	292.92	327.4	298.085	332.4	303.32	337.4	308.57
322.5	293.025	327.5	298.1875	332.5	303.425	337.5	308.675
322.6	293.13	327.6	298.29	332.6	303.53	337.6	308.78
322.7	293.235	327.7	298.3925	332.7	303.635	337.7	308.885
322.8	293.34	327.8	298.495	332.8	303.74	337.8	308.99
322.9	293.445	327.9	298.5975	332.9	303.845	337.9	309.095
323	293.55	328	298.7	333	303.95	338	309.2
323.1	293.655	328.1	298.805	333.1	304.055	338.1	309.305
323.2	293.76	328.2	298.91	333.2	304.16	338.2	309.41
323.3	293.865	328.3	299.015	333.3	304.265	338.3	309.515
323.4	293.97	328.4	299.12	333.4	304.37	338.4	309.62
323.5	294.075	328.5	299.225	333.5	304.475	338.5	309.725
323.6	294.18	328.6	299.33	333.6	304.58	338.6	309.83
323.7	294.285	328.7	299.435	333.7	304.685	338.7	309.935
323.8	294.39	328.8	299.54	333.8	304.79	338.8	310.04
323.9	294.495	328.9	299.645	333.9	304.895	338.9	310.145
324	294.6	329	299.75	334	305	339	310.25
324.1	294.7025	329.1	299.855	334.1	305.105	339.1	310.355
324.2	294.805	329.2	299.96	334.2	305.21	339.2	310.46
324.3	294.9075	329.3	300.065	334.3	305.315	339.3	310.565
324.4	295.01	329.4	300.17	334.4	305.42	339.4	310.67
324.5	295.1125	329.5	300.275	334.5	305.525	339.5	310.775
324.6	295.215	329.6	300.38	334.6	305.63	339.6	310.88
324.7	295.3175	329.7	300.485	334.7	305.735	339.7	310.985
324.8	295.42	329.8	300.59	334.8	305.84	339.8	311.09
324.9	295.5225	329.9	300.695	334.9	305.945	339.9	311.195

FEEDWATER ENTHALPY

340	311.3	345	316.55	350	321.8	355	327.05
340.1	311.405	345.1	316.655	350.1	321.905	355.1	327.155
340.2	311.51	345.2	316.76	350.2	322.01	355.2	327.26
340.3	311.615	345.3	316.865	350.3	322.115	355.3	327.365
340.4	311.72	345.4	316.97	350.4	322.22	355.4	327.47
340.5	311.825	345.5	317.075	350.5	322.325	355.5	327.575
340.6	311.93	345.6	317.18	350.6	322.43	355.6	327.68
340.7	312.035	345.7	317.285	350.7	322.535	355.7	327.785
340.8	312.14	345.8	317.39	350.8	322.64	355.8	327.89
340.9	312.245	345.9	317.495	350.9	322.745	355.9	327.995
341	312.35	346	317.6	351	322.85	356	328.1
341.1	312.455	346.1	317.705	351.1	322.955	356.1	328.205
341.2	312.56	346.2	317.81	351.2	323.06	356.2	328.31
341.3	312.665	346.3	317.915	351.3	323.165	356.3	328.415
341.4	312.77	346.4	318.02	351.4	323.27	356.4	328.52
341.5	312.875	346.5	318.125	351.5	323.375	356.5	328.625
341.6	312.98	346.6	318.23	351.6	323.48	356.6	328.73
341.7	313.085	346.7	318.335	351.7	323.585	356.7	328.835
341.8	313.19	346.8	318.44	351.8	323.69	356.8	328.94
341.9	313.295	346.9	318.545	351.9	323.795	356.9	329.045
342	313.4	347	318.65	352	323.9	357	329.15
342.1	313.505	347.1	318.755	352.1	324.005	357.1	329.255
342.2	313.61	347.2	318.86	352.2	324.11	357.2	329.36
342.3	313.715	347.3	318.965	352.3	324.215	357.3	329.465
342.4	313.82	347.4	319.07	352.4	324.32	357.4	329.57
342.5	313.925	347.5	319.175	352.5	324.425	357.5	329.675
342.6	314.03	347.6	319.28	352.6	324.53	357.6	329.78
342.7	314.135	347.7	319.385	352.7	324.635	357.7	329.885
342.8	314.24	347.8	319.49	352.8	324.74	357.8	329.99
342.9	314.345	347.9	319.595	352.9	324.845	357.9	330.095
343	314.45	348	319.7	353	324.95	358	330.2
343.1	314.555	348.1	319.805	353.1	325.055	358.1	330.305
343.2	314.66	348.2	319.91	353.2	325.16	358.2	330.41
343.3	314.765	348.3	320.015	353.3	325.265	358.3	330.515
343.4	314.87	348.4	320.12	353.4	325.37	358.4	330.62
343.5	314.975	348.5	320.225	353.5	325.475	358.5	330.725
343.6	315.08	348.6	320.33	353.6	325.58	358.6	330.83
343.7	315.185	348.7	320.435	353.7	325.685	358.7	330.935
343.8	315.29	348.8	320.54	353.8	325.79	358.8	331.04
343.9	315.395	348.9	320.645	353.9	325.895	358.9	331.145
344	315.5	349	320.75	354	326	359	331.25
344.1	315.605	349.1	320.855	354.1	326.105	359.1	331.355
344.2	315.71	349.2	320.96	354.2	326.21	359.2	331.46
344.3	315.815	349.3	321.065	354.3	326.315	359.3	331.565
344.4	315.92	349.4	321.17	354.4	326.42	359.4	331.67
344.5	316.025	349.5	321.275	354.5	326.525	359.5	331.775
344.6	316.13	349.6	321.38	354.6	326.63	359.6	331.88
344.7	316.235	349.7	321.485	354.7	326.735	359.7	331.985
344.8	316.34	349.8	321.59	354.8	326.84	359.8	332.09
344.9	316.445	349.9	321.695	354.9	326.945	359.9	332.195

FEEDWATER ENTHALPY

360	332.3	365	337.575	370	342.9	375	348.225
360.1	332.405	365.1	337.6825	370.1	343.005	375.1	348.3325
360.2	332.51	365.2	337.79	370.2	343.11	375.2	348.44
360.3	332.615	365.3	337.8975	370.3	343.215	375.3	348.5475
360.4	332.72	365.4	338.005	370.4	343.32	375.4	348.655
360.5	332.825	365.5	338.1125	370.5	343.425	375.5	348.7625
360.6	332.93	365.6	338.22	370.6	343.53	375.6	348.87
360.7	333.035	365.7	338.3275	370.7	343.635	375.7	348.9775
360.8	333.14	365.8	338.435	370.8	343.74	375.8	349.085
360.9	333.245	365.9	338.5425	370.9	343.845	375.9	349.1925
361	333.35	366	338.65	371	343.95	376	349.3
361.1	333.455	366.1	338.7575	371.1	344.055	376.1	349.4075
361.2	333.56	366.2	338.865	371.2	344.16	376.2	349.515
361.3	333.665	366.3	338.9725	371.3	344.265	376.3	349.6225
361.4	333.77	366.4	339.08	371.4	344.37	376.4	349.73
361.5	333.875	366.5	339.1875	371.5	344.475	376.5	349.8375
361.6	333.98	366.6	339.295	371.6	344.58	376.6	349.945
361.7	334.085	366.7	339.4025	371.7	344.685	376.7	350.0525
361.8	334.19	366.8	339.51	371.8	344.79	376.8	350.16
361.9	334.295	366.9	339.6175	371.9	344.895	376.9	350.2675
362	334.4	367	339.725	372	345	377	350.375
362.1	334.505	367.1	339.8325	372.1	345.1075	377.1	350.4825
362.2	334.61	367.2	339.94	372.2	345.215	377.2	350.59
362.3	334.715	367.3	340.0475	372.3	345.3225	377.3	350.6975
362.4	334.82	367.4	340.155	372.4	345.43	377.4	350.805
362.5	334.925	367.5	340.2625	372.5	345.5375	377.5	350.9125
362.6	335.03	367.6	340.37	372.6	345.645	377.6	351.02
362.7	335.135	367.7	340.4775	372.7	345.7525	377.7	351.1275
362.8	335.24	367.8	340.585	372.8	345.86	377.8	351.235
362.9	335.345	367.9	340.6925	372.9	345.9675	377.9	351.3425
363	335.45	368	340.8	373	346.075	378	351.45
363.1	335.555	368.1	340.905	373.1	346.1825	378.1	351.5575
363.2	335.66	368.2	341.01	373.2	346.29	378.2	351.665
363.3	335.765	368.3	341.115	373.3	346.3975	378.3	351.7725
363.4	335.87	368.4	341.22	373.4	346.505	378.4	351.88
363.5	335.975	368.5	341.325	373.5	346.6125	378.5	351.9875
363.6	336.08	368.6	341.43	373.6	346.72	378.6	352.095
363.7	336.185	368.7	341.535	373.7	346.8275	378.7	352.2025
363.8	336.29	368.8	341.64	373.8	346.935	378.8	352.31
363.9	336.395	368.9	341.745	373.9	347.0425	378.9	352.4175
364	336.5	369	341.85	374	347.15	379	352.525
364.1	336.6075	369.1	341.955	374.1	347.2575	379.1	352.6325
364.2	336.715	369.2	342.06	374.2	347.365	379.2	352.74
364.3	336.8225	369.3	342.165	374.3	347.4725	379.3	352.8475
364.4	336.93	369.4	342.27	374.4	347.58	379.4	352.955
364.5	337.0375	369.5	342.375	374.5	347.6875	379.5	353.0625
364.6	337.145	369.6	342.48	374.6	347.795	379.6	353.17
364.7	337.2525	369.7	342.585	374.7	347.9025	379.7	353.2775
364.8	337.36	369.8	342.69	374.8	348.01	379.8	353.385
364.9	337.4675	369.9	342.795	374.9	348.1175	379.9	353.4925

FEEDWATER ENTHALPY

380	353.6	385	358.975	390	364.35	395	369.725
380.1	353.7075	385.1	359.0825	390.1	364.4575	395.1	369.8325
380.2	353.815	385.2	359.19	390.2	364.565	395.2	369.94
380.3	353.9225	385.3	359.2975	390.3	364.6725	395.3	370.0475
380.4	354.03	385.4	359.405	390.4	364.78	395.4	370.155
380.5	354.1375	385.5	359.5125	390.5	364.8875	395.5	370.2625
380.6	354.245	385.6	359.62	390.6	364.995	395.6	370.37
380.7	354.3525	385.7	359.7275	390.7	365.1025	395.7	370.4775
380.8	354.46	385.8	359.835	390.8	365.21	395.8	370.585
380.9	354.5675	385.9	359.9425	390.9	365.3175	395.9	370.6925
381	354.675	386	360.05	391	365.425	396	370.8
381.1	354.7825	386.1	360.1575	391.1	365.5325	396.1	370.9075
381.2	354.89	386.2	360.265	391.2	365.64	396.2	371.015
381.3	354.9975	386.3	360.3725	391.3	365.7475	396.3	371.1225
381.4	355.105	386.4	360.48	391.4	365.855	396.4	371.23
381.5	355.2125	386.5	360.5875	391.5	365.9625	396.5	371.3375
381.6	355.32	386.6	360.695	391.6	366.07	396.6	371.445
381.7	355.4275	386.7	360.8025	391.7	366.1775	396.7	371.5525
381.8	355.535	386.8	360.91	391.8	366.285	396.8	371.66
381.9	355.6425	386.9	361.0175	391.9	366.3925	396.9	371.7675
382	355.75	387	361.125	392	366.5	397	371.875
382.1	355.8575	387.1	361.2325	392.1	366.6075	397.1	371.9825
382.2	355.965	387.2	361.34	392.2	366.715	397.2	372.09
382.3	356.0725	387.3	361.4475	392.3	366.8225	397.3	372.1975
382.4	356.18	387.4	361.555	392.4	366.93	397.4	372.305
382.5	356.2875	387.5	361.6625	392.5	367.0375	397.5	372.4125
382.6	356.395	387.6	361.77	392.6	367.145	397.6	372.52
382.7	356.5025	387.7	361.8775	392.7	367.2525	397.7	372.6275
382.8	356.61	387.8	361.985	392.8	367.36	397.8	372.735
382.9	356.7175	387.9	362.0925	392.9	367.4675	397.9	372.8425
383	356.825	388	362.2	393	367.575	398	372.95
383.1	356.9325	388.1	362.3075	393.1	367.6825	398.1	373.0575
383.2	357.04	388.2	362.415	393.2	367.79	398.2	373.165
383.3	357.1475	388.3	362.5225	393.3	367.8975	398.3	373.2725
383.4	357.255	388.4	362.63	393.4	368.005	398.4	373.38
383.5	357.3625	388.5	362.7375	393.5	368.1125	398.5	373.4875
383.6	357.47	388.6	362.845	393.6	368.22	398.6	373.595
383.7	357.5775	388.7	362.9525	393.7	368.3275	398.7	373.7025
383.8	357.685	388.8	363.06	393.8	368.435	398.8	373.81
383.9	357.7925	388.9	363.1675	393.9	368.5425	398.9	373.9175
384	357.9	389	363.275	394	368.65	399	374.025
384.1	358.0075	389.1	363.3825	394.1	368.7575	399.1	374.1325
384.2	358.115	389.2	363.49	394.2	368.865	399.2	374.24
384.3	358.2225	389.3	363.5975	394.3	368.9725	399.3	374.3475
384.4	358.33	389.4	363.705	394.4	369.08	399.4	374.455
384.5	358.4375	389.5	363.8125	394.5	369.1875	399.5	374.5625
384.6	358.545	389.6	363.92	394.6	369.295	399.6	374.67
384.7	358.6525	389.7	364.0275	394.7	369.4025	399.7	374.7775
384.8	358.76	389.8	364.135	394.8	369.51	399.8	374.885
384.9	358.8675	389.9	364.2425	394.9	369.6175	399.9	374.9925

FEEDWATER ENTHALPY

400	375.1	405	380.5	410	385.95	415	391.4
400.1	375.2075	405.1	380.61	410.1	386.0575	415.1	391.51
400.2	375.315	405.2	380.72	410.2	386.165	415.2	391.62
400.3	375.4225	405.3	380.83	410.3	386.2725	415.3	391.73
400.4	375.53	405.4	380.94	410.4	386.38	415.4	391.84
400.5	375.6375	405.5	381.05	410.5	386.4875	415.5	391.95
400.6	375.745	405.6	381.16	410.6	386.595	415.6	392.06
400.7	375.8525	405.7	381.27	410.7	386.7025	415.7	392.17
400.8	375.96	405.8	381.38	410.8	386.81	415.8	392.28
400.9	376.0675	405.9	381.49	410.9	386.9175	415.9	392.39
401	376.175	406	381.6	411	387.025	416	392.5
401.1	376.2825	406.1	381.71	411.1	387.1325	416.1	392.61
401.2	376.39	406.2	381.82	411.2	387.24	416.2	392.72
401.3	376.4975	406.3	381.93	411.3	387.3475	416.3	392.83
401.4	376.605	406.4	382.04	411.4	387.455	416.4	392.94
401.5	376.7125	406.5	382.15	411.5	387.5625	416.5	393.05
401.6	376.82	406.6	382.26	411.6	387.67	416.6	393.16
401.7	376.9275	406.7	382.37	411.7	387.7775	416.7	393.27
401.8	377.035	406.8	382.48	411.8	387.885	416.8	393.38
401.9	377.1425	406.9	382.59	411.9	387.9925	416.9	393.49
402	377.25	407	382.7	412	388.1	417	393.6
402.1	377.3575	407.1	382.81	412.1	388.21	417.1	393.71
402.2	377.465	407.2	382.92	412.2	388.32	417.2	393.82
402.3	377.5725	407.3	383.03	412.3	388.43	417.3	393.93
402.4	377.68	407.4	383.14	412.4	388.54	417.4	394.04
402.5	377.7875	407.5	383.25	412.5	388.65	417.5	394.15
402.6	377.895	407.6	383.36	412.6	388.76	417.6	394.26
402.7	378.0025	407.7	383.47	412.7	388.87	417.7	394.37
402.8	378.11	407.8	383.58	412.8	388.98	417.8	394.48
402.9	378.2175	407.9	383.69	412.9	389.09	417.9	394.59
403	378.325	408	383.8	413	389.2	418	394.7
403.1	378.4325	408.1	383.9075	413.1	389.31	418.1	394.81
403.2	378.54	408.2	384.015	413.2	389.42	418.2	394.92
403.3	378.6475	408.3	384.1225	413.3	389.53	418.3	395.03
403.4	378.755	408.4	384.23	413.4	389.64	418.4	395.14
403.5	378.8625	408.5	384.3375	413.5	389.75	418.5	395.25
403.6	378.97	408.6	384.445	413.6	389.86	418.6	395.36
403.7	379.0775	408.7	384.5525	413.7	389.97	418.7	395.47
403.8	379.185	408.8	384.66	413.8	390.08	418.8	395.58
403.9	379.2925	408.9	384.7675	413.9	390.19	418.9	395.69
404	379.4	409	384.875	414	390.3	419	395.8
404.1	379.51	409.1	384.9825	414.1	390.41	419.1	395.91
404.2	379.62	409.2	385.09	414.2	390.52	419.2	396.02
404.3	379.73	409.3	385.1975	414.3	390.63	419.3	396.13
404.4	379.84	409.4	385.305	414.4	390.74	419.4	396.24
404.5	379.95	409.5	385.4125	414.5	390.85	419.5	396.35
404.6	380.06	409.6	385.52	414.6	390.96	419.6	396.46
404.7	380.17	409.7	385.6275	414.7	391.07	419.7	396.57
404.8	380.28	409.8	385.735	414.8	391.18	419.8	396.68
404.9	380.39	409.9	385.8425	414.9	391.29	419.9	396.79

FEEDWATER ENTHALPY

420	396.9	425	402.4	430	407.9	435	413.475
420.1	397.01	425.1	402.51	430.1	408.01	435.1	413.5875
420.2	397.12	425.2	402.62	430.2	408.12	435.2	413.7
420.3	397.23	425.3	402.73	430.3	408.23	435.3	413.8125
420.4	397.34	425.4	402.84	430.4	408.34	435.4	413.925
420.5	397.45	425.5	402.95	430.5	408.45	435.5	414.0375
420.6	397.56	425.6	403.06	430.6	408.56	435.6	414.15
420.7	397.67	425.7	403.17	430.7	408.67	435.7	414.2625
420.8	397.78	425.8	403.28	430.8	408.78	435.8	414.375
420.9	397.89	425.9	403.39	430.9	408.89	435.9	414.4875
421	398	426	403.5	431	409	436	414.6
421.1	398.11	426.1	403.61	431.1	409.11	436.1	414.71
421.2	398.22	426.2	403.72	431.2	409.22	436.2	414.82
421.3	398.33	426.3	403.83	431.3	409.33	436.3	414.93
421.4	398.44	426.4	403.94	431.4	409.44	436.4	415.04
421.5	398.55	426.5	404.05	431.5	409.55	436.5	415.15
421.6	398.66	426.6	404.16	431.6	409.66	436.6	415.26
421.7	398.77	426.7	404.27	431.7	409.77	436.7	415.37
421.8	398.88	426.8	404.38	431.8	409.88	436.8	415.48
421.9	398.99	426.9	404.49	431.9	409.99	436.9	415.59
422	399.1	427	404.6	432	410.1	437	415.7
422.1	399.21	427.1	404.71	432.1	410.2125	437.1	415.81
422.2	399.32	427.2	404.82	432.2	410.325	437.2	415.92
422.3	399.43	427.3	404.93	432.3	410.4375	437.3	416.03
422.4	399.54	427.4	405.04	432.4	410.55	437.4	416.14
422.5	399.65	427.5	405.15	432.5	410.6625	437.5	416.25
422.6	399.76	427.6	405.26	432.6	410.775	437.6	416.36
422.7	399.87	427.7	405.37	432.7	410.8875	437.7	416.47
422.8	399.98	427.8	405.48	432.8	411	437.8	416.58
422.9	400.09	427.9	405.59	432.9	411.1125	437.9	416.69
423	400.2	428	405.7	433	411.225	438	416.8
423.1	400.31	428.1	405.81	433.1	411.3375	438.1	416.91
423.2	400.42	428.2	405.92	433.2	411.45	438.2	417.02
423.3	400.53	428.3	406.03	433.3	411.5625	438.3	417.13
423.4	400.64	428.4	406.14	433.4	411.675	438.4	417.24
423.5	400.75	428.5	406.25	433.5	411.7875	438.5	417.35
423.6	400.86	428.6	406.36	433.6	411.9	438.6	417.46
423.7	400.97	428.7	406.47	433.7	412.0125	438.7	417.57
423.8	401.08	428.8	406.58	433.8	412.125	438.8	417.68
423.9	401.19	428.9	406.69	433.9	412.2375	438.9	417.79
424	401.3	429	406.8	434	412.35	439	417.9
424.1	401.41	429.1	406.91	434.1	412.4625	439.1	418.01
424.2	401.52	429.2	407.02	434.2	412.575	439.2	418.12
424.3	401.63	429.3	407.13	434.3	412.6875	439.3	418.23
424.4	401.74	429.4	407.24	434.4	412.8	439.4	418.34
424.5	401.85	429.5	407.35	434.5	412.9125	439.5	418.45
424.6	401.96	429.6	407.46	434.6	413.025	439.6	418.56
424.7	402.07	429.7	407.57	434.7	413.1375	439.7	418.67
424.8	402.18	429.8	407.68	434.8	413.25	439.8	418.78
424.9	402.29	429.9	407.79	434.9	413.3625	439.9	418.89

FEEDWATER ENTHALPY

440	419	445	424.625
440.1	419.1125	445.1	424.7375
440.2	419.225	445.2	424.85
440.3	419.3375	445.3	424.9625
440.4	419.45	445.4	425.075
440.5	419.5625	445.5	425.1875
440.6	419.675	445.6	425.3
440.7	419.7875	445.7	425.4125
440.8	419.9	445.8	425.525
440.9	420.0125	445.9	425.6375
441	420.125	446	425.75
441.1	420.2375	446.1	425.8625
441.2	420.35	446.2	425.975
441.3	420.4625	446.3	426.0875
441.4	420.575	446.4	426.2
441.5	420.6875	446.5	426.3125
441.6	420.8	446.6	426.425
441.7	420.9125	446.7	426.5375
441.8	421.025	446.8	426.65
441.9	421.1375	446.9	426.7625
442	421.25	447	426.875
442.1	421.3625	447.1	426.9875
442.2	421.475	447.2	427.1
442.3	421.5875	447.3	427.2125
442.4	421.7	447.4	427.325
442.5	421.8125	447.5	427.4375
442.6	421.925	447.6	427.55
442.7	422.0375	447.7	427.6625
442.8	422.15	447.8	427.775
442.9	422.2625	447.9	427.8875
443	422.375	448	428
443.1	422.4875	448.1	428.1125
443.2	422.6	448.2	428.225
443.3	422.7125	448.3	428.3375
443.4	422.825	448.4	428.45
443.5	422.9375	448.5	428.5625
443.6	423.05	448.6	428.675
443.7	423.1625	448.7	428.7875
443.8	423.275	448.8	428.9
443.9	423.3875	448.9	429.0125
444	423.5	449	429.125
444.1	423.6125	449.1	429.2375
444.2	423.725	449.2	429.35
444.3	423.8375	449.3	429.4625
444.4	423.95	449.4	429.575
444.5	424.0625	449.5	429.6875
444.6	424.175	449.6	429.8
444.7	424.2875	449.7	429.9125
444.8	424.4	449.8	430.025
444.9	424.5125	449.9	430.1375

ENTHALPY TABLES

Sheet 1

Feedwater Temperature
&
Saturated Liquid
Enthalpy

<u>°F</u>	<u>h_f</u>	<u>°F</u>	<u>h_f</u>
414.8	391.18	417.6	394.26
414.9	391.29	417.7	394.37
415.0	391.40	417.8	394.48
415.1	391.51	417.9	394.59
415.2	391.62	418.0	394.70
415.3	391.73	418.1	394.81
415.4	391.84	418.2	394.92
415.5	391.95	418.3	395.03
415.6	392.06	418.4	395.14
415.7	392.17	418.5	395.25
415.8	392.28	418.6	395.36
415.9	392.39	418.7	395.47
416.0	392.50	418.8	395.58
416.1	392.61	418.9	395.69
416.2	392.72	419.0	395.80
416.3	392.83	419.1	395.91
416.4	392.94	419.2	396.02
416.5	393.05	419.3	396.13
416.6	393.16	419.4	396.24
416.7	393.27	419.5	396.35
416.8	393.38	419.6	396.46
416.9	393.49	419.7	396.67
417.0	393.60	419.8	396.68
417.1	393.71	419.9	396.79
417.2	393.82	420.0	396.90
417.3	393.93	420.1	397.01
417.4	394.04	420.2	397.12
417.5	394.15	420.3	397.23

<u>°F</u>	<u>h_f</u>	<u>°F</u>	<u>h_f</u>
420.4	397.34	424.1	401.41
420.5	397.45	424.2	401.52
420.6	397.56	424.3	401.63
420.7	397.67	424.4	401.74
420.8	397.78	424.5	401.85
420.9	397.89	424.6	401.96
421.0	398.00	424.7	402.07
421.1	398.11	424.8	402.18
421.2	398.22	424.9	402.29
421.3	398.33	425.0	402.40
421.4	398.44	425.1	402.51
421.5	398.55	425.2	402.62
421.6	398.66	425.3	402.73
421.7	398.77	425.4	402.84
421.8	398.88	425.5	402.95
421.9	398.99	425.6	403.06
422.0	399.10	425.7	403.17
422.1	399.21	425.8	403.28
422.2	399.32	425.9	403.39
422.3	399.43	426.0	403.50
422.4	399.54	426.1	403.61
422.5	399.65	426.2	403.72
422.6	399.76	426.3	403.83
422.7	399.87	426.4	403.94
422.8	399.98	426.5	404.05
422.9	400.09	426.6	404.16
423.0	400.20	426.7	404.27
423.1	400.31	426.8	404.38
423.2	400.42	426.9	404.49
423.3	400.53	427.0	404.60
423.4	400.64	427.1	404.71
423.5	400.75	427.2	404.82
423.6	400.86	427.3	404.93
423.7	400.97	427.4	405.04
423.8	401.08	427.5	405.15
423.9	401.19	427.6	405.26

<u>°F</u>	<u>h_f</u>
427.8	405.48
427.9	405.59
428.0	405.70
428.1	405.81
428.2	405.92
428.3	406.03
428.4	406.14
428.5	406.25
428.6	406.36
428.7	406.47
428.8	406.58
428.9	406.69
429.0	406.80
429.1	406.91
429.2	407.02
429.3	407.13
429.4	407.24
429.5	407.35
429.6	407.46
429.7	407.57
429.8	407.68
429.9	407.79
430.0	407.90
430.1	408.01
430.2	408.12
430.3	408.23
430.4	408.34
430.5	408.45
430.6	408.56
430.7	408.67
430.8	408.78
430.9	408.89
431.0	409.00
431.1	409.11
431.2	409.22
431.3	409.33
431.4	409.44

<u>°F</u>	<u>h_f</u>
431.5	409.55
431.6	409.66
431.7	409.77
431.8	409.88
431.9	409.99
432.0	410.10
432.1	410.21
432.2	410.33
432.3	410.44
432.4	410.55
432.5	410.66
432.6	410.78
432.7	410.89
432.8	411.00
432.9	411.11
433.0	411.23
433.1	411.34
433.2	411.45
433.3	411.56
433.4	411.68
433.5	411.79
433.6	411.90
433.7	412.01
433.8	412.13
433.9	412.24
434.0	412.35
434.1	412.46
434.2	412.58
434.3	412.69
434.4	412.80
434.5	412.91
434.6	413.03
434.7	413.14
434.8	413.25
434.9	413.36
435.0	413.48
435.1	413.59

<u>°F</u>	<u>h_f</u>
435.2	413.70
435.3	413.81
435.4	413.93
435.5	414.04
435.6	414.15
435.7	414.26
435.8	414.38
435.9	414.49
436.0	414.60
436.1	414.71
436.2	414.83
436.3	414.94
436.4	415.05
436.5	415.16
436.6	415.28
436.7	415.39
436.8	415.50
436.9	415.61

Operations Supervisor

DA Sizer

Date

2/23/84

REGION II
ST. LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM

EVALUATE OVERTIME GUIDELINES

CANDIDATE _____

EXAMINER _____

**REGION II
ST LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM**

EVALUATE OVERTIME GUIDELINES

KA Statement: Knowledge of Conduct of Operations Requirements

KA #: 2.1.1 (3.7 / 3.8)

References: ADM-09.07, Overtime Limitations for Plant Personnel

Candidate: _____ **Time Start**
Name _____ **Time Finish**

Performance Rating: Sat _____ Unsat _____

Validation Time 15 minutes

Examiner: _____ **Signature:** _____

Comments

**REGION II
ST LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM**

EVALUATE OVERTIME GUIDELINES

Directions to the candidate for Administrative JPMS:

I will explain the initial conditions and state the task to be performed. You will be allowed to use any reference needed to complete the task. Ensure you indicate to me when you finish your assigned task by returning the material needed for the task that I provided to you.

Initial Conditions

You are a Reactor Operator on Crew 6 and have worked the following schedule:

Date	Hours	Status	Notes
8-7-04	0630-1845	Normal day off	Call out to cover shift (15 minute turnover)
8-8-04	1430-1845	Normal day off	Call out to cover shift (15 minute turnover)
8-9-04	0800-1600	Normal day off	Pre-scheduled training class
8-10-04	0630-1845	Normal work day	15 minute turnover
8-11-04	0630-1845	Normal work day	15 minute turnover
8-12-04	0630-1845	Normal work day	15 minute turnover
8-13-04	0630-1845	Normal work day	15 minute turnover
8-14-04	1030-1830	Normal day off	Pre-scheduled shift communicator

The Watch Engineer has asked you to come in tomorrow, 8-15-04. He would like you to work 8 hours (0630-1430).

Initiating Cue

You have been instructed to:

1. Determine the number of hours you could work (if any) starting at 0630 on 8-15-04 without violating overtime guidelines No computers are available to perform this calculation.

End of Part 1

Part 2

Only After Completing Part 1

2. What is the earliest that you can work an eight hour shift on 8-15-04? No computers are available to perform this calculation.

START TIME: _____

<p><u>STEP 1:</u> Determine the number of hours you could work (if any) starting at 0630 on 8-15-04 without violating overtime guidelines. No computers are available to perform this calculation.</p> <p><u>STANDARD:</u> YOU CAN ONLY WORK 4 HOURS OF THE 0630-1430 SHIFT ON 8-15-04</p> <p>EXAMINER'S CUE: ACKNOWLEDGE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 2:</u> Determine the earliest you could work an eight hour shift on 8-15-04 without violating overtime guidelines. No computers are available to perform this calculation.</p> <p><u>STANDARD:</u> YOU CAN WORK AN EIGHT HOUR SHIFT STARTING AT 1030 ON 8-15-04</p> <p>EXAMINER'S CUE: ACKNOWLEDGE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

STOP TIME: _____

Over the Limit Tracker

	Ops Support Schedule						Can I work this schedule?					
	Mids			Days			Mid Shift			Day Shift		
	1830-2230	2230-0230	0230-0630	0630-1030	1030-1430	1430-1830	1830-2230	2230-0230	0230-0630	0630-1030	1030-1430	1430-1830
08/03/04							OK	OK	OK	OK	OK	OK
08/04/04							OK	OK	OK	OK	OK	OK
08/05/04							OK	OK	OK	OK	OK	OK
08/06/04							OK	OK	OK	OK	OK	OK
08/07/04				4.00	4.00	4.00	OK	OK	OK	OK	OK	OK
08/08/04						4.00	OK	OK	OK	OK	OK	NO
08/09/04				2.50	4.00	1.50	OK	OK	OK	OK	OK	OK
08/10/04				4.00	4.00	4.00	OK	OK	OK	OK	OK	OK
08/11/04				4.00	4.00	4.00	OK	OK	OK	OK	OK	OK
08/12/04				4.00	4.00	4.00	OK	OK	OK	OK	OK	OK
08/13/04				4.00	4.00	4.00	OK	OK	OK	OK	OK	OK
08/14/04					4.00	4.00	OK	OK	OK	OK	OK	OK
08/15/04				4.00	4.00		OK	OK	OK	OK	NO	OK
08/16/04							OK	OK	OK	OK	OK	OK
08/17/04							OK	OK	OK	OK	OK	OK
08/18/04							OK	OK	OK	OK	OK	OK

Part 1: No, can NOT work 0630-1430

Over the Limit Tracker

		Ops Support Schedule						Can I work this schedule?					
		Mids			Days			Mid Shift			Day Shift		
		1830-2230	2230-0230	0230-0630	0630-1030	1030-1430	1430-1830	1830-2230	2230-0230	0230-0630	0630-1030	1030-1430	1430-1830
Tue	08/03/04							OK	OK	OK	OK	OK	OK
Wed	08/04/04							OK	OK	OK	OK	OK	OK
Thu	08/05/04							OK	OK	OK	OK	OK	OK
Fri	08/06/04							OK	OK	OK	OK	OK	OK
Sat	08/07/04				4.00	4.00	4.00	OK	OK	OK	OK	OK	OK
Sun	08/08/04						4.00	OK	OK	OK	OK	OK	OK
Mon	08/09/04				2.50	4.00	1.50	OK	OK	OK	OK	OK	OK
Tue	08/10/04				4.00	4.00	4.00	OK	OK	OK	OK	OK	OK
Wed	08/11/04				4.00	4.00	4.00	OK	OK	OK	OK	OK	OK
Thu	08/12/04				4.00	4.00	4.00	OK	OK	OK	OK	OK	OK
Fri	08/13/04				4.00	4.00	4.00	OK	OK	OK	OK	OK	OK
Sat	08/14/04					4.00	4.00	OK	OK	OK	OK	OK	OK
Sun	08/15/04				4.00			OK	OK	OK	OK	OK	OK
Mon	08/16/04							OK	OK	OK	OK	OK	OK
Tue	08/17/04							OK	OK	OK	OK	OK	OK
Wed	08/18/04							OK	OK	OK	OK	OK	OK

Part 1: Can only work 4 hours.

Over the Limit Tracker

		Ops Support Schedule						Can I work this schedule?					
		Mids			Days			Mid Shift			Day Shift		
		1830-2230	2230-0230	0230-0630	0630-1030	1030-1430	1430-1830	1830-2230	2230-0230	0230-0630	0630-1030	1030-1430	1430-1830
Tue	08/03/04							OK	OK	OK	OK	OK	OK
Wed	08/04/04							OK	OK	OK	OK	OK	OK
Thu	08/05/04							OK	OK	OK	OK	OK	OK
Fri	08/06/04							OK	OK	OK	OK	OK	OK
Sat	08/07/04				4.00	4.00	4.00	OK	OK	OK	OK	OK	OK
Sun	08/08/04						4.00	OK	OK	OK	OK	OK	OK
Mon	08/09/04				2.50	4.00	1.50	OK	OK	OK	OK	OK	OK
Tue	08/10/04				4.00	4.00	4.00	OK	OK	OK	OK	OK	OK
Wed	08/11/04				4.00	4.00	4.00	OK	OK	OK	OK	OK	OK
Thu	08/12/04				4.00	4.00	4.00	OK	OK	OK	OK	OK	OK
Fri	08/13/04				4.00	4.00	4.00	OK	OK	OK	OK	OK	OK
Sat	08/14/04					4.00	4.00	OK	OK	OK	OK	OK	OK
Sun	08/15/04					4.00	4.00	OK	OK	OK	OK	OK	OK
Mon	08/16/04							OK	OK	OK	OK	OK	OK
Tue	08/17/04							OK	OK	OK	OK	OK	OK
Wed	08/18/04							OK	OK	OK	OK	OK	OK
Thu	08/19/04							OK	OK	OK	OK	OK	OK

Part 2 : Earliest Work on 8 hour shift

CANDIDATE COPY
(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF ANSWER)

Initial Conditions

You are a Reactor Operator on Crew 6 and have worked the following schedule:

Date	Hours	Status	Notes
8-7-04	0630-1845	Normal day off	Call out to cover shift (15 minute turnover)
8-8-04	1430-1845	Normal day off	Call out to cover shift (15 minute turnover)
8-9-04	0800-1600	Normal day off	Pre-scheduled training class
8-10-04	0630-1845	Normal work day	15 minute turnover
8-11-04	0630-1845	Normal work day	15 minute turnover
8-12-04	0630-1845	Normal work day	15 minute turnover
8-13-04	0630-1845	Normal work day	15 minute turnover
8-14-04	1030-1830	Normal day off	Pre-scheduled shift communicator

The Watch Engineer has asked you to come in tomorrow, 8-15-04. He would like you to work 8 hours (0630-1430).

Initiating Cue

You have been instructed to:

1. Determine the number of hours you could work (if any) starting at 0630 on 8-15-04 without violating overtime guidelines. No computers are available to perform this calculation.

CANDIDATE COPY
(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF ANSWER)

PART 2
Only After Completing Part 1

Initial Conditions (Same as Part 1)

You are a Reactor Operator on Crew 6 and have worked the following schedule:

Date	Hours	Status	Notes
8-7-04	0630-1845	Normal day off	Call out to cover shift (15 minute turnover)
8-8-04	1430-1845	Normal day off	Call out to cover shift (15 minute turnover)
8-9-04	0800-1600	Normal day off	Pre-scheduled training class
8-10-04	0630-1845	Normal work day	15 minute turnover
8-11-04	0630-1845	Normal work day	15 minute turnover
8-12-04	0630-1845	Normal work day	15 minute turnover
8-13-04	0630-1845	Normal work day	15 minute turnover
8-14-04	1030-1830	Normal day off	Pre-scheduled shift communicator

Initiating Cue

You have been instructed to:

2. Determine the earliest you could work an eight hour shift on 8-15-04 without violating overtime guidelines. No computers are available to perform this calculation.

**FPL**

ST. LUCIE PLANT

ADMINISTRATIVE PROCEDURE

SAFETY RELATED

Procedure No.

ADM-09.07

Current Revision No.

5

Effective Date

03/28/04

Title:

OVERTIME LIMITATIONS FOR PLANT PERSONNEL

Responsible Department: **OPERATIONS****REVISION SUMMARY:**

Revision 5 - Incorporated PCR 03-1781 for CR 03-1063 to delete Section, blanket OT approval for outages, add Section to add maintenance supervisors to enhance key maintenance personnel, and make other minor changes. (G. Madden, 02/14/04)

Revision 4A - Incorporated PCR 03-1821 to delete references to protection services. (Margaret DiMarco, 06/06/03)

Revision 4 – Implemented TS Amendments 185 and 128. (K.W. Frehafer, 09/20/02)

Revision 3 – Enhanced definition of key maintenance personnel, added detail to the overtime guidelines and added union. (Roger Weller, 04/29/02)

AND

Removed reference to NP-306. (E. Cone, 04/25/02)

Revision 2 – Revised requirements for the initiation of condition reports and authorization forms. (Jim Voorhees, 11/19/01)

Revision 1B - Changed President, Nuclear Division to Chief Nuclear Officer. (M. DiMarco, 10/22/01)

Revision 0	FRG Review Date 05/27/99	Approved By R. G. West Plant General Manager	Approval Date 05/27/99	S__OPS DATE DOCT DOCN SYS COM ITM	PROCEDURE ADM-09.07 COMPLETED 5
Revision 5	FRG Review Date 02/13/04	Approved By G. L. Johnston Plant General Manager N/A Designated Approver N/A Designated Approver (Minor Correction)	Approval Date 02/14/04		

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1.0 PURPOSE

1.1 §₅ This procedure applies to the following plant staff who performs safety-related functions in the following capacities:

- Reactor Operators
- Senior Reactor Operators
- Auxiliary Operators
- Health Physicists
- Key Maintenance Personnel
- Chemistry Technicians

1.2 ¶₃ This procedure provides administrative and documentation requirements as defined in St. Lucie Unit 1 and Unit 2 Technical Specifications, applicable to personnel defined in 1.1 above.

2.0 REFERENCES

NOTE

One or more of the following symbols may be used in this procedure:

§ Indicates a Regulatory commitment made by Technical Specifications, Condition of License, Audit, LER, Bulletin, Operating Experience, License Renewal, etc. and shall NOT be revised without Facility Review Group review and Plant General Manager approval.

¶ Indicates a management directive, vendor recommendation, plant practice or other non-regulatory commitment that should NOT be revised without consultation with the plant staff.

Ψ Indicates a step that requires a sign off on a data sheet.

2.1 Technical Specifications

- §₁ St. Lucie Unit 1 and Unit 2 Technical Specifications, Section 6.2.2.f; Notice of Violation Response Nov 96-09; L-96-217
- §₅ L-2002-003, Overtime Limit PLA, and TS Amendments 185 and 128

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2.2 Procedures

- ¶₁ ADM-15.04, Fitness for Duty - Call Out and For Cause Testing

2.3 Miscellaneous Documents

- ¶₄ L-96-217, 10 CFR 2.201
- §₃ L-97-165, Reply to a Notice of Violation
- NUREG 0737 Section I.A.1.3
- NRC GL 82-12
- §₄ L-97-291, Reply to Notice of Violation
- §₆ NRC Generic Letter 83-14, Definitions of Key Maintenance Personnel (Clarification of GL 82-12)

2.4 PMAIs / CRs

- ¶₃ CR 96-2417, QA Audit QSL-PM-96-18 response
- §₄ PM-99-03-322, Overtime Tracking
- CR 03-1063, QA Review of ANO Violation

3.0 RESPONSIBILITIES

3.1 The Plant General Manager is responsible for ensuring the use of overtime is minimized.

3.2 Each department head is responsible to provide necessary work schedules without routine heavy use of overtime.

3.3 Each department head is responsible for following these instructions and ensuring documentation of the bases for use of overtime exceeding the guidelines when necessary.

3.4 Each department head is responsible for maintaining cognizance or performing a review, on a monthly basis, to ENSURE routine or excessive overtime hours have NOT been assigned.

/Kb

/Kb

/Kb

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- 3.5** It is the responsibility of each lead Supervisor and General Maintenance Leader (GML):
1. ¶₁ To EVALUATE the capability of each individual working overtime / extended hours under their guidance to ensure that the person is fit for duty and able to safely and competently perform the work.
 2. To MONITOR the hours worked by their employees to ENSURE they do NOT EXCEED the guidelines on safety related work unless authorized with a completed Appendix A.
- 3.6** All plant personnel are responsible for tracking their hours worked, their compliance with the overtime guidelines, and the prior identification to supervision of scheduled work hours which would cause an exceedence of the guidelines.
- 3.7** §₄ A work hours tracking system is required to be used by Operations, Health Physics and Chemistry Personnel to alert the user to the potential for exceeding overtime limit guidelines when hours worked and hours planned to be worked are entered in a tracking system.
1. For key Maintenance Personnel the work hours are required to be tracked by using a tracking system during the following situations:
 - A. Shift change
 - B. Working greater than 12 hours in a day
 - C. Working more than 6 consecutive days
- 4.0** DEFINITIONS
- 4.1** §₁ Examples of personnel who perform safety related functions are:
1. Senior Reactor Operations (SRO)
 2. Reactor Operators (RCO)
 3. Health Physicists (HP)
 4. Auxiliary Operators (NLO)
 5. Key Maintenance personnel
 6. Chemistry Technicians

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4.2 §6 Key Maintenance personnel are defined as those personnel who are responsible for the correct performance of maintenance, repair, modification, or calibration of safety related structures, systems or components, and who are personnel performing or immediately supervising the performance of such activities.

1. For maintenance bargaining unit personnel this includes all journeyman or above classifications and all employees relieving into these classifications.
2. For maintenance supervision and GML personnel this includes GMLs and maintenance supervisors that directly supervise and are responsible for the correct performance of safety related work.

4.3 Exceedence – a calendar day on which overtime guidelines are exceeded.

5.0 RECORDS REQUIRED

5.1 Completed Overtime Deviation Requests shall be maintained in the plant files in accordance with QI-17-PSL-1, Quality Assurance Records.

/K5

/K5

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6.0 INSTRUCTIONS

6.1 Overtime Limit Guidelines

1. Personnel occupying or relieving into the classifications listed in Section 4.1 in every department at the St. Lucie Plant, shall COMPLY with the policies set forth in Step 2 below.

NOTE

PSL Overtime Guidelines allow for the following when determining the total amount of hours an individual may be on-site:

- Shift turnover time (not to exceed 2 hours per day)
 - Turnover: That period of time up to one hour, typically at the beginning and / or at the end of a work shift, to account for activities that are not direct work implementation.
- Mealtime (not to exceed 1/2 hour per day)

2. §₁ ENSURE adequate shift coverage is maintained without routine heavy use of overtime.

NOTE

- §₄ A work hours tracking system is required to be used by Operations, Health Physics and Chemistry Personnel to alert the user to the potential for exceeding overtime limit guidelines when hours worked and hours planned to be worked are entered in a tracking system.
- For Key Maintenance Personnel the work hours are required to be tracked by using a tracking system during the following situations:
 - Shift change
 - Working greater than 12 hours in a day
 - Working more than 6 consecutive days

- A. In the event that unforeseen problems require substantial amounts of overtime, for the classifications listed in Section 4.1 above, to be used, or during extended periods of shutdown for refueling, major maintenance or major plant modification, on a temporary basis the following guidelines shall be followed:

1. ¶₃ An individual should NOT be permitted to work more than 16 hours straight, excluding shift turnover, meal, and travel time.

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6.1 Overtime Limit Guidelines (continued)

2. A. (continued)

2. ¶₃ An individual should NOT be permitted to work

- More than 16 hours in any 24-hour period, excluding shift turnover, meal, and travel time.

OR

- More than 24 hours in any 48-hour period, excluding shift turnover, meal, and travel time.

3. ¶₃ An individual should NOT be permitted to work more than 72 hours in any 7-day period, excluding shift turnover, meal, and travel time.

4. ¶₃ A break of at least 8 hours shall be allowed between work periods, including shift turnover time.

5. Any bargaining unit employee in the classifications listed in Section 4.1, or relieving into one of these classifications, that would exceed the guidelines as described above will be considered not eligible for that assignment, except as provided below:

- If an employee, who is being offered pre-arranged or call out overtime, has worked ≤ 68 hours in the previous 6-day period, he / she will be eligible for the assignment provided he / she does not exceed 84 hours in a 7-day period and provided he / she will not exceed the limits set forth in Steps 6.1.2.A.1, 6.1.2.A.2 and 6.1.2.A.4 above.
- Deviations from the guidance set forth in Step 6.1.2.A.3 above will require prior management authorization as set forth in Section 6.2.
- If management does not authorize the deviation, the employee bypassed for the overtime assignment will be paid for the hours not offered as though he / she had actually worked.

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6.1 Overtime Limit Guidelines (continued)

2. A. 5. (continued)

- In the event that unforeseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for refueling, major maintenance, or major plant modifications, on a temporary basis, deviations of the overtime guidelines can be approved by management.

- 6. §₁** Except during extended shutdown periods, the use of overtime should be considered on an individual basis and NOT for the entire staff on a shift.

NOTE

It is the responsibility of supervisory personnel that have approving authority for Time Reports to ensure that employees comply with overtime policy and do NOT EXCEED overtime limit guidelines.

- 7. ¶₃** All overtime is recorded on the employees Time Report.

END OF SECTION 6.1

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6.2 Deviations from Overtime Limit Guidelines

1. §₅ Deviation from the overtime guidelines as contained in Section 6.1 shall be approved by the Plant General Manager – St. Lucie Plant.
2. When necessary, the senior person on site from their respective department shall **COMPLETE** an Overtime Deviation Request (Appendix A) and **OBTAIN** the necessary approval for personnel specifically outlined in Section 6.1 of this procedure.
3. In emergency cases, any department head may approve the deviation request provided the Plant General Manager – St. Lucie Plant is notified the next working day.
4. A “Request To Deviate From Overtime Guidelines” form, Appendix A of this procedure, shall be completed. The name of each individual expected to deviate from overtime guidelines shall be included on the form. Multiple personnel may be listed on a single form.
5. A Condition Report shall be generated and attached to each “Request To Deviate From Overtime Guidelines” form generated. The CR will address all personnel listed on the Appendix A.
6. Each exceedence requires a separate deviation form, unless the initial form specifically states that multiple exceedences are expected, and the duration of the authorization is clear.
7. Deviations of 1 hour or less that occur when clock adjustments are made due to daylight savings time do not require documentation on Appendix A or a Condition Report.
8. ¶₃ A completed Appendix A, Request to Deviate from Overtime Guidelines, shall be submitted to be maintained in plant files outlined in Section 5.1 of this procedure.
9. §_{3,4} ¶_{3,4} A Plant Condition Report shall be generated to assess any deviations from overtime limit requirements.

END OF SECTION 6.2

1/29

1/29

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6.3 Periodic Review of Personnel Overtime Hours

CAUTION

- §₃ Technical Specification 6.2.2.f requires that administrative procedures be developed and implemented to limit the working hours of unit staff who perform safety-related functions.
- The Technical Specification also requires that adequate shift coverage is maintained without routine heavy use of overtime for individuals.
- While the Overtime Limit Guidelines of procedural Steps 6.1.2.A.1 and 6.1.2.A.2 are permissible with respect to safety related work or support functions, excessive use of this relief during non-outage periods may still result in a violation of Technical Specification 6.2.2.f.

1. ¶₃ Each department head, with employees in the classifications listed in Section 4.1, shall perform a review that will ensure (on a monthly basis) that routine or excessive overtime hours have NOT been assigned.
2. Those individuals identified of potentially exceeding overtime guidelines will be screened by:
 - A. Evaluation of their time sheets.
 - B. INTERVIEW with responsible supervision for determination of the reason for excessive hours on site.

END OF SECTION 6.3

REVISION NO.: 5	PROCEDURE TITLE: OVERTIME LIMITATIONS FOR PLANT PERSONNEL ST. LUCIE PLANT	PAGE: 12 of 12
PROCEDURE NO.: ADM-09.07		

APPENDIX A
REQUEST TO DEVIATE FROM OVERTIME GUIDELINES
(Page 1 of 1)

TO: Plant General Manager – St. Lucie Plant
FROM: _____ **DATE** _____
SUBJECT: DEVIATION FROM OVERTIME GUIDELINES FOR (NAMES):

ORIGINATOR

§1 REQUEST the above listed individual to exceed the following overtime guidelines:

- _____ Greater than 16 hours straight
- _____ Greater than 16 hours in a 24 hour period
- _____ Greater than 24 hours in a 48 hour period
- _____ Greater than 72 hours in a 7 day period
- _____ A break of at least 8 hours (including shift turnover time)

SCOPE OF WORK

BASIS FOR DEVIATION

- ☐ Person has unique qualification / training
- ☐ Sufficient rest will be provided
- ☐ Turnover of personnel would jeopardize quality of work
- ☐ Excessive lost time would occur and sufficient testing will ensure quality of activity
- ☐ Other _____

DETAILED EXPLANATION OF BASIS FOR DEVIATION

Note: This deviation requires a plant Condition Report per Para 6.2.9

_____ CR Number

APPROVAL

Approved by _____
Plant General Manager – St. Lucie Plant

ROUTING

Original to Nuclear Records Vault

END OF APPENDIX A

REGION II
ST. LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM

EVALUATE SHIFT STAFFING REQUIREMENTS

CANDIDATE _____

EXAMINER _____

**REGION II
ST LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM**

EVALUATE SHIFT STAFFING REQUIREMENTS

KA Statement: Knowledge of Shift Staffing Requirements

KA #: 2.1.4 (2.3 / 3.4)

References: Operation Department Policy 201 / 207

Candidate: _____ **Time Start**
Name
Time Finish

Performance Rating: Sat _____ Unsat _____

Examiner: _____ **Signature:** _____

Comments

**REGION II
ST LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM**

EVALUATE SHIFT STAFFING REQUIREMENTS

Directions to the candidate for Administrative JPMS:

I will explain the initial conditions and state the task to be performed. You will be allowed to use any reference needed to complete the task. Ensure you indicate to me when you finish your assigned task by returning the material needed for the task that I provided to you.

Initial Conditions

You are the Shift Manager (non-degree) of crew 6. The following is a crew roster / qualification matrix. All crewmembers are available. All licensed personnel are active unless stated otherwise.

Crew 6 Qualification Roster

Personnel	STA	Shift Communi- cator	Fire Team	Fire Team Leader	SCBA
R. West (US)	X	X			X
N. Cummings (US)		X			X
B. Smith (NWE) Inactive License		X	X	X	X
R. Johnson (RO)		X			X
E. Winters (RO)		X			X
J. Jacobs (RO)		X			X
W. Gary (RO)		X			X
L. Harrison (RO)			X	X	X
J. Hart (SNPO)			X		X
T. Green (SNPO)			X		X
J. Meyers (SNPO)					
R. South (SNPO)					X
G. Henry (SNPO)			X		X

Initiating Cue

You are tasked with evaluating personnel qualifications and determining if minimum complement is met for both units per St. Lucie administrative requirements. If not met, determine the minimum staff and the position(s) need to be called out to meet the minimum administrative requirements.

START TIME: _____

<p><u>STEP 1:</u> Determines that one of the following needs to be called out:</p> <ul style="list-style-type: none">1. Unit Supervisor (US)2. Shift Technical Advisor (STA) <p><u>STANDARD:</u> AT LEAST ONE OF THE ABOVE CALL OUT</p> <p>EXAMINER'S CUE: ACKNOWLEDGE</p> <p>EVALUATOR'S NOTE: Steps are not ordered.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 2:</u> Determines that one of the following needs to be called out:</p> <ul style="list-style-type: none">1. Reactor Operator (RO)2. Shift Communicator (SC)3. Fire Team <p><u>STANDARD:</u> AT LEAST ONE OF THE ABOVE CALL OUT</p> <p>EXAMINER'S CUE: ACKNOWLEDGE</p> <p>EVALUATOR'S NOTE: Steps are not ordered.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

STOP TIME: _____

CANDIDATE COPY
(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF ANSWER)

Initial Conditions


You are the Shift Manager (non-degree) of crew 6. The following is a crew roster / qualification matrix. All crewmembers are available. All licensed personnel are active unless stated otherwise.

Crew 6 Qualification Roster

Personnel	STA	Shift Communi- icator	Fire Team	Fire Team Leader	SCBA
R. West (US)	X	X			X
N. Cummings (US)		X			X
B. Smith (NWE) Inactive License		X	X	X	X
R. Johnson (RO)		X			X
E. Winters (RO)		X			X
J. Jacobs (RO)		X			X
W. Gary (RO)		X			X
L. Harrison (RO)			X	X	X
J. Hart (SNPO)			X		X
T. Green (SNPO)			X		X
J. Meyers (SNPO)					
R. South (SNPO)					X
G. Henry (SNPO)			X		X

Initiating Cue

You are tasked with evaluating personnel qualifications and determining if minimum complement is met for both units per St. Lucie administrative requirements. If not met, determine the minimum staff and the position(s) need to be called out to meet the minimum administrative requirements.

	ST. LUCIE PLANT	OPS-201
	OPERATIONS DEPARTMENT POLICY	Rev. 7
	SHIFT COMPLEMENT	Date 03/19/04 Page 1 of 2

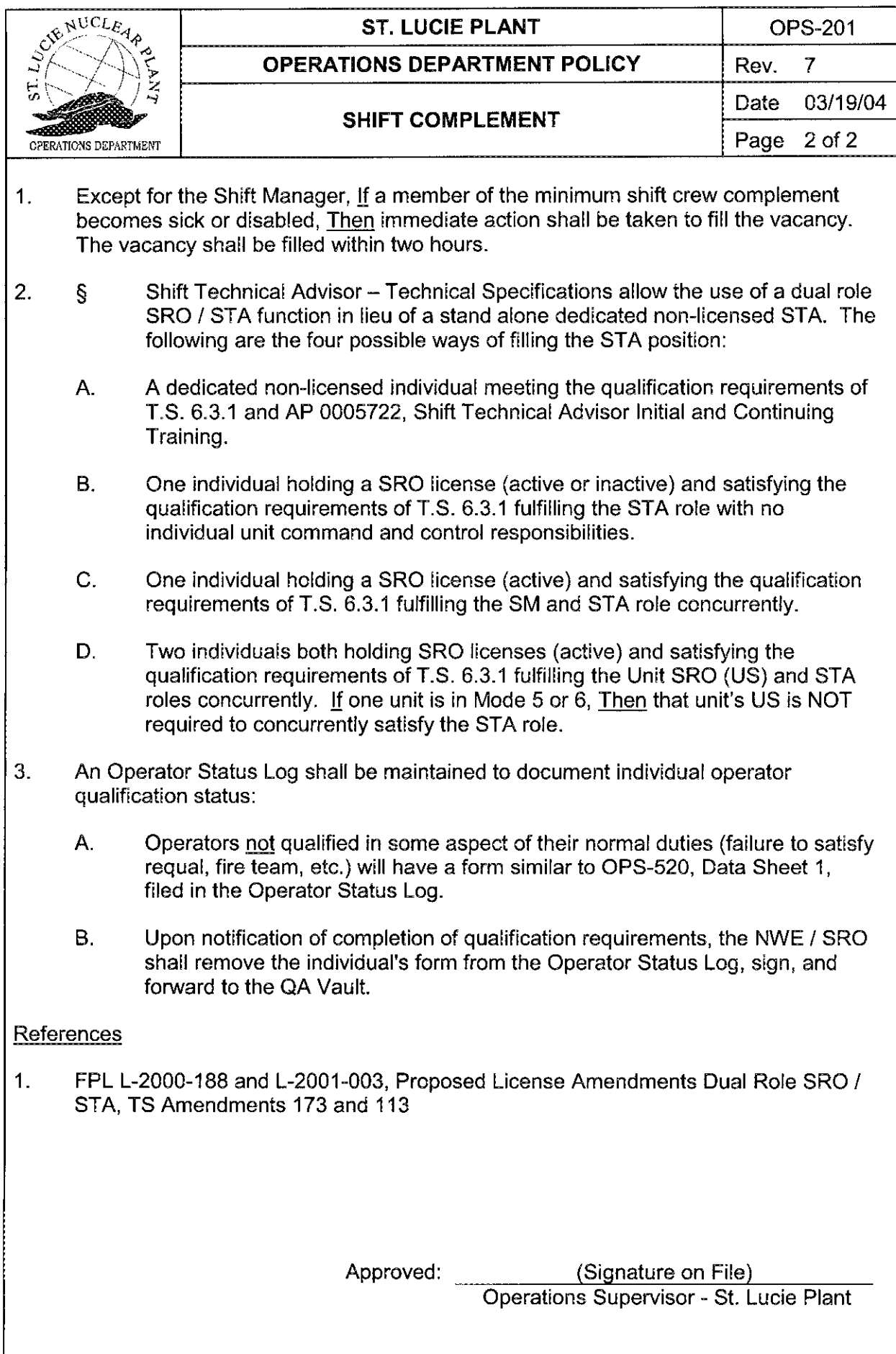
Personnel expecting to be late or unable to report to work as scheduled shall notify the plant as soon as possible. Shift vacancies shall be filled within the guidance of OSP-204, Filling of Management Shift Vacancies, and OPS-205, Filling of Bargaining Unit Shift Vacancies. If the workload for a classification becomes more than the scheduled shift complement can adequately handle overtime can be utilized for additional personnel. Using overtime to staff above the minimum shift complement shall have prior Operations Supervisor approval.

The minimum operating shift crew complement shall consist of: *

- 1 Shift Manager
- 1 Fire Brigade Leader (Qualified Brigade Leader of any classification)
- 2 Unit Supervisors (1 per unit)
- 4 Reactor Operators (2 per unit)
- 2 Senior Nuclear Plant Operators (1 per unit)
- 2 Nuclear Plant Operators (1 per unit)
- 2 Associate Nuclear Plant Operators 1 per unit) **
- 1 Shift Technical Advisor (STA)
- 1 Shift Communicator (RCO who is meeting Shift Communicator requirements / SRCO / NWE / US / SM)

* Personnel in a Training status may be used to fill a Fire Brigade position if qualified. In this case the crew may run with 1 ANPO.

** Typically a crew will run with one operator covering both ANPO positions. The extra operator will be used to support other departmental activities (e.g., evolutions on other watch stations, clearances, procedure reviews, etc.). Additionally, a crew may run with only one ANPO if a vacancy is created due to vacation, sickness or other employee requested absence, so long as the scheduled work activities and fire team can be performed with 5 operators.



**ST. LUCIE PLANT**

OPS-207

OPERATIONS DEPARTMENT POLICY

Rev. 5

FIRE BRIGADE

Date 08/05/97

Page 1 of 1

The Nuclear Plant Fire Brigade is the first line of defense in the event of a fire in the protected area. The Fire Brigade consists of a brigade leader and four additional brigade members.

To ensure maximum flexibility in meeting brigade requirements, it is a departmental goal for all non-licensed operators and all bargaining unit SROs to maintain Fire Brigade qualifications.

It shall be the individual Fire Brigade member's responsibility to maintain Fire Brigade qualification. This shall include:

1. Medical treatment to correct physical problems as required.
2. Drill attendance.
3. Requal training.

AP 1800022, Fire Protection Plan, requires that all personnel assigned to the Fire Brigade remain ONSITE at all times. The Operations Policy is more restrictive and requires the following conditions to be adhered to:

1. The Fire Brigade Leader SHALL NOT go inside Containment (unless responding to a fire inside Containment).
2. Fire Brigade Members, excluding the Brigade Leader, ARE PERMITTED to go inside Containment or the Switchyard, but ONLY IF no other Non-Fire Brigade Operators are available.
3. Operations Fire Brigade Member response: If there is a fire Onsite, outside of the Protected Area (i.e. Nuclear Training Center), Operations Fire Brigade Members SHALL RESPOND.

References:

- INPO 84-021 Good Practice, "Conduct of Operations"
- AP 1800022, "Fire Protection Plan"
- EPIP 3100025E, "Fire Emergencies"

Approved: _____ (Signature on File)
Operations Supervisor - St. Lucie Plant

REVISION NO.: 56	PROCEDURE TITLE: LICENSED OPERATOR CONTINUING TRAINING PROGRAM ST. LUCIE PLANT	PAGE: 26 of 37
PROCEDURE NO.: 0005720		

APPENDIX B
LICENSED WATCHSTANDING RECORD
 (Page 1 of 4)

NOTE

- A complete shift (8 / 12 hours) is from "Watch Relief to Watch Relief," and includes shift turnover time in accordance with NUREG 1262 Ans. 227. Documented watches shall include shift turnover time.
- Must be respirator and SCBA qualified to activate or maintain active license. SRO Refueling Supervisors are not required to be respirator and SCBA qualified.

Name: _____

To _____ Activate or _____ Maintain Active for:
 _____ RCO _____ SRO _____ SRO Refueling Supervisor

Respirator and SCBA Qualified? Yes _____ No _____ **

Shift Information:

Date:	Time: (from / to)	Unit:	Position Held:	Plant Status:

Evolution Observed:

The hours listed above were done inside the Control Room in accordance with Step 7.6 of this procedure.

 Signature of Watchstander

This license maintenance or activation watch was performed under my direction.
 The times and information listed above are correct.

 Print

SM or US

 sign

REGION II
ST. LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM

DETERMINE AND EVALUATE SURVEILLANCE
REQUIREMENTS

SRO

CANDIDATE _____

EXAMINER _____

**REGION II
ST LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM**

DETERMINE SURVEILLANCE REQUIREMENTS

KA Statement: Knowledge of Surveillance Procedures

KA #: 2.2.12 (3.0 / 3.4)

References: ADM-29.01, Inservice Testing (IST) Program for Pumps and Valves
ADM-78.01, Post Maintenance Testing
OP-2-0010125A, Data Sheet 21

Candidate: _____ **Time Start**
Name
Time Finish

Performance Rating: Sat _____ Unsat _____

Validation Time 25 minutes

Examiner: _____ **Signature:** _____

Comments

**REGION II
ST LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM**

DETERMINE SURVEILLANCE REQUIREMENTS

Directions to the candidate for Administrative JPMS:

I will explain the initial conditions and state the task to be performed. You will be allowed to use any reference needed to complete the task. Ensure you indicate to me when you finish your assigned task by returning the material needed for the task that I provided to you.

PART 1

Initial Conditions

You are the Unit Supervisor on Unit 2. The 2B Component Cooling Water Pump has been on a clearance and out of service for 6 hours for Mechanical Maintenance to perform a coupling lube. Maintenance is now complete and the clearance has been released.

Initiating Cue

Determine post-maintenance requirements for the 2B Component Cooling Water Pump.

Only if the candidate successfully completes Part 1

PART 2

Initiating Cue

Evaluate the following data and determine operability status of the 2B Component Cooling Water Pump. All steps of OP-2-0010125A, Data Sheet 21 have been completed up to step 8.

Instrument number	PSL-335
Suction Pressure	5.52
Discharge Pressure	112
IPN	0.322
IPS	0.317
OPN	0.255
OPS	0.296
OPA	0.258

START TIME: _____

<p>STEP 1: Determines that 2B Component is listed as an Inservice Test Program component.</p> <p>STANDARD: IST Component</p> <p>EXAMINER'S CUE: ACKNOWLEDGE</p> <p>COMMENTS:</p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 2: Determines that 2B Component requires a Code Run for Post Maintenance Testing due to coupling lube.</p> <p>STANDARD: Determines Code Run</p> <p>EXAMINER'S CUE: ACKNOWLEDGE</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

NOTE: Only continue to Step 3 if Step 2 is successfully completed.

<p>NOTE: Only continue to this step if Step 2 is successfully completed.</p> <p>STEP 3: Determines that Calculated Pump Head is in Allowable Range.</p> <p>STANDARD: $(112-5.52) \times 2.307 = 245.65 \text{ ft.}$</p> <p>CALCULATED PUMP HEAD IS IN ALLOWABLE RANGE.</p> <p>EXAMINER'S CUE: NONE</p> <p>EVALUATOR'S NOTE: Calculated valve can be between 245 – 246 ft (3 significant digits)</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 4: Determines that Vibration IPN in Allowable Range.</p> <p>STANDARD: VIBRATION IPN IN ALLOWABLE RANGE.</p> <p>EXAMINER'S CUE: NONE</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 4: Determines that Vibration IPS in Alert Range.</p> <p>STANDARD: VIBRATION IPS IN ALERT RANGE.</p> <p>EXAMINER'S CUE: NONE</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

<p>STEP 5: Determines that Vibration OPN in Allowable Range.</p> <p>STANDARD: VIBRATION OPN IN ALLOWABLE RANGE.</p> <p>EXAMINER'S CUE: NONE</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 6: Determines that Vibration OPS in Allowable Range.</p> <p>STANDARD: VIBRATION OPS IN ALLOWABLE RANGE.</p> <p>EXAMINER'S CUE: NONE</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 7: Determines that Vibration OPA in Alert Range.</p> <p>STANDARD: VIBRATION OPA IN ALERT RANGE.</p> <p>EXAMINER'S CUE: NONE</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

<p>STEP 8: Determines that 2B Component Cooling Water Pump is in Alert Range. Still Operable.</p> <p>STANDARD: 2B COMPONENT COOLING WATER PUMP IS IN ALERT RANGE. STILL OPERABLE.</p> <p>EXAMINER'S CUE: NONE</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 9: Purpose of Test:</p> <p>STANDARD: CHECKS "Post Maint. (explain) Coupling Lube</p> <p>EXAMINER'S CUE: NONE</p> <p>COMMENTS:</p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

STOP TIME: _____

CANDIDATE COPY
(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF ANSWER)

Initial Conditions

You are the Unit Supervisor on Unit 2. The 2B Component Cooling Water Pump has been on a clearance and out of service for 6 hours for Mechanical Maintenance to perform a coupling lube. Maintenance is now complete and the clearance has been released.

Initiating Cue

Determine post-maintenance requirements for the 2B Component Cooling Water Pump.

CANDIDATE COPY
(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF ANSWER)

Part 2

Initiating Cue

Evaluate the following data and determine operability status of the 2B Component Cooling Water Pump. All steps of OP-2-0010125A, Data Sheet 21 have been completed up to step 8.

Instrument number	PSL-335
Suction Pressure	5.52
Discharge Pressure	112
IPN	0.322
IPS	0.317
OPN	0.255
OPS	0.296
OPA	0.258

REGION II
ST. LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM

EVALUATE SURVEILLANCE DATA

CANDIDATE _____

EXAMINER _____

**REGION II
ST LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM**

EVALUATE SURVEILLANCE DATA

KA Statement: Knowledge of Surveillance Procedures

KA #: 2.2.12 (3.0 / 3.4)

References: OP-2-0010125A, Data Sheet 21

Candidate: _____ **Time Start**
Name _____ **Time Finish**

Performance Rating: Sat _____ Unsat _____

Validation Time 15 minutes

Examiner: _____ **Signature:** _____

Comments

**REGION II
ST LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM**

EVALUATE SURVEILLANCE DATA

Directions to the candidate for Administrative JPMS:

I will explain the initial conditions and state the task to be performed. You will be allowed to use any reference needed to complete the task. Ensure you indicate to me when you finish your assigned task by returning the material needed for the task that I provided to you.

Initial Conditions

You are the Reactor Operator on shift on Unit 2. A Post Maintenance (coupling lube) code run is being performed on the 2B Component Cooling Water Pump. The SNPO has called in the applicable data from the field.

Initiating Cue

Evaluate the following data and determine operability status of the 2B Component Cooling Water Pump. All steps of OP-2-0010125A, Data Sheet 21 have been completed up to step 8.

Instrument number	PSL-335
Suction Pressure	5.52
Discharge Pressure	112
IPN	0.322
IPS	0.317
OPN	0.255
OPS	0.296
OPA	0.258

START TIME: _____

<p>STEP 1: Determines that Calculated Pump Head is in Allowable Range.</p> <p>STANDARD: $(112-5.52) \times 2.307 = 245.65 \text{ ft.}$</p> <p>CALCULATED PUMP HEAD IS IN ALLOWABLE RANGE.</p> <p>EXAMINER'S CUE: NONE</p> <p>EVALUATOR'S NOTE: Calculated valve can be between 245 – 246 ft (3 significant digits)</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 2: Determines that Vibration IPN in Allowable Range.</p> <p>STANDARD: VIBRATION IPN IN ALLOWABLE RANGE.</p> <p>EXAMINER'S CUE: NONE</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 3: Determines that Vibration IPS in Alert Range.</p> <p>STANDARD: VIBRATION IPS IN ALERT RANGE.</p> <p>EXAMINER'S CUE: NONE</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

<p><u>STEP 4:</u> Determines that Vibration OPN in Allowable Range.</p> <p><u>STANDARD:</u> VIBRATION OPN IN ALLOWABLE RANGE.</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 5:</u> Determines that Vibration OPS in Allowable Range.</p> <p><u>STANDARD:</u> VIBRATION OPS IN ALLOWABLE RANGE.</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 6:</u> Determines that Vibration OPA in Alert Range.</p> <p><u>STANDARD:</u> VIBRATION OPA IN ALERT RANGE.</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

<p><u>STEP 6:</u> Determines that 2B Component Cooling Water Pump is in Alert Range. Still Operable.</p> <p><u>STANDARD:</u> 2B COMPONENT COOLING WATER PUMP IS IN ALERT RANGE. STILL OPERABLE.</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 7:</u> Purpose of Test:</p> <p><u>STANDARD:</u> CHECKS "Post Maint. (explain) <u>Coupling Lube</u></p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

STOP TIME: _____

Answer Key

REVISION NO.: 79	PROCEDURE TITLE: SURVEILLANCE DATA SHEETS	PAGE: 166 of 302
PROCEDURE NO.: OP-2-0010125A	ST. LUCIE UNIT 2	

DATA SHEET 21 QUARTERLY PUMP CODE RUN (Page 3 of 3)

2B CCW Pump

Date: / /

Suction Press PX-14-27B (psig)	Disch. Press PI-14-1B (psig)	Calculated Pump Head (ft.) (1)	Vibration Inst. No. (2)				
			Peak Velocity (in./sec)				
			IPN	IPS	OPN	OPS	OPA
5.52	112	245.65	0.322	0.317	0.255	0.296	0.258
S ₈ Acceptance Criteria	Allowable Range	201.5 to 246.1	<0.325	<0.300	<0.300	<0.300	<0.250
	Alert Range	N/A	0.325 to 0.700	0.300 to 0.700	0.300 to 0.700	0.300 to 0.700	0.250 to 0.600
	Required Action	<201.5 >246.1	>0.700	>0.700	>0.700	>0.700	>0.600

- (1) Pump head in ft = (Discharge Pressure - Suction Pressure) x (2.307)
 (2) For pump vibration location drawing see ADM-29.02, ASME Code Testing of Pumps and Valves.

The above data has been compared to the acceptance criteria and determined to be:

☐ Acceptable ☒ Alert Range ☐ Required Action Range

Purpose of test: ☐ Quarterly Code Run ☒ Post. Maint. (explain) Coupling Lube ☐ Other _____

I have reviewed the requirements of this procedure including other surveillances performed during this procedure, if any (i.e., datasheet(s), PMT sheet(s), etc.). Any deviation(s) found during the performance of this procedure has (have) been listed and appropriate actions and notifications made.

RCO _____ SM / US _____

Answer Key

CANDIDATE COPY
(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF ANSWER)

Initial Conditions

You are the Reactor Operator on shift on Unit 2. A Post Maintenance (coupling lube) code run is being performed on the 2B Component Cooling Water Pump. The SNPO has called in the applicable data from the field.

Initiating Cue

Evaluate the following data and determine operability status of the 2B Component Cooling Water Pump. All steps of OP-2-0010125A, Data Sheet 21 have been completed up to step 8.

Instrument number	PSL-335
Suction Pressure	5.52
Discharge Pressure	112
IPN	0.322
IPS	0.317
OPN	0.255
OPS	0.296
OPA	0.258

REVISION NO.: 79	PROCEDURE TITLE: SURVEILLANCE DATA SHEETS	PAGE: 164 of 302
PROCEDURE NO.: OP-2-0010125A	ST. LUCIE UNIT 2	

DATA SHEET 21
QUARTERLY PUMP CODE RUN
(Page 1 of 3)

2B Component Cooling Water Pump Date 8 / 20 / 04 Surv. Start Time: 0800 Surv. Stop Time: _____

1. Ensure a temporary test pressure gauge is installed at PX-14-27B (0 to 60 psig, plus or minus 0.5%).
Instrument ID No. PSL-001
2. Open V14135, PX-14-27B on 2B CCW Pump Suct Root. L
SNPO
3. Ensure the 2B CCW Pump is running.
4. If the 2C CCW pump is operating on the B header, then stop the 2C pump and place control switch in PULL TO LOCK.
5. Check the pump, associated valves and piping for evidence of external leakage. Ensure the overall system conditions are satisfactory. Generate NPWOs as required. SNPO L

S	2	OPS
DATE	_____	
DOCT	<u>Data Sheet</u>	
DOCN	<u>OP-2-0010125A</u>	
SYS	<u>OPS</u>	
COMP	_____	
ITM	<u>DS-21</u>	

REVISION NO.: 79	PROCEDURE TITLE: SURVEILLANCE DATA SHEETS	PAGE: 165 of 302
PROCEDURE NO.: OP-2-0010125A	ST. LUCIE UNIT 2	

DATA SHEET 21
QUARTERLY PUMP CODE RUN
 (Page 2 of 3)

NOTE

¶s Butterfly valves do not have linear flow characteristics when throttled closed. Typically, flow through a butterfly valve does not change appreciably until the valve is approximately half closed. From half closed to full closed, flow is generally reduced at a greater rate per hand wheel revolution as the valve moves towards the full closed position. For example, if from 50% closed, one hand wheel revolution results in a 300 gpm reduction in flow, then from 75% closed, one hand wheel revolution might result in a 600 to 700 gpm reduction in flow. These same flow characteristics also apply when opening a butterfly valve.

6. Throttle the pump discharge valve (SB14148) to obtain 5000 gpm header flow. (FIS-14-1B)
7. Run pump for a minimum of 2 minutes.
8. Record all data on the following table.
9. Lock open the pump discharge valve (SB14148) _____ / _____
I.V.
10. Stop pump if not required.
11. Close V14135, PX-14-27B on 2B CCW Pump Suct Root.
12. Remove temporary test pressure gauge from PX-14-27B.

SNPO

I&C

REVISION NO.: 79	PROCEDURE TITLE: SURVEILLANCE DATA SHEETS	PAGE: 166 of 302
PROCEDURE NO.: OP-2-0010125A	ST. LUCIE UNIT 2	

DATA SHEET 21
QUARTERLY PUMP CODE RUN
 (Page 3 of 3)

2B CCW Pump

Date: / /

Suction Press PX-14-27B (psig)	Disch. Press PI-14-1B (psig)	Calculated Pump Head (ft.) (1)	Vibration Inst. No. _____ (2)				
			Peak Velocity (in./sec)				
			IPN	IPS	OPN	OPS	OPA
S _B Acceptance Criteria	Allowable Range	201.5 to 246.1	<0.325	<0.300	<0.300	<0.300	<0.250
	Alert Range	N/A	0.325 to 0.700	0.300 to 0.700	0.300 to 0.700	0.300 to 0.700	0.250 to 0.600
	Required Action	<201.5 >246.1	>0.700	>0.700	>0.700	>0.700	>0.600

(1) Pump head in ft = (Discharge Pressure - Suction Pressure) x (2.307)

(2) For pump vibration location drawing see ADM-29.02, ASME Code Testing of Pumps and Valves.

The above data has been compared to the acceptance criteria and determined to be:

☐ Acceptable ☐ Alert Range ☐ Required Action Range

Purpose of test: ☐ Quarterly Code Run ☐ Post. Maint. (explain) _____ ☐ Other _____

I have reviewed the requirements of this procedure including other surveillances performed during this procedure, if any (i.e., datasheet(s), PMT sheet(s), etc.). Any deviation(s) found during the performance of this procedure has (have) been listed and appropriate actions and notifications made.

RCO _____ SM / US _____

REGION II
ST. LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM

EVALUATE SURVEY MAP DATA

CANDIDATE _____

EXAMINER _____

**REGION II
ST LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM**

EVALUATE SURVEY MAP DATA

KA Statement: Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized.

KA #: 2.3.4 (2.5 / 3.1)

References: - HPP-20, Area Radiation and Contamination Surveys
- RWP 04-0004

Candidate: _____ **Time Start**
Name
Time Finish

Performance Rating: Sat _____ Unsat _____

Validation Time 15 minutes

Examiner: _____ **Signature:** _____

Comments

**REGION II
ST LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM**

EVALUATE SURVEY MAP DATA

Directions to the candidate for Administrative JPMS:

I will explain the initial conditions and state the task to be performed. You will be allowed to use any reference needed to complete the task. Ensure you indicate to me when you finish your assigned task by returning the material needed for the task that I provided to you.

Initial Conditions

You are a Unit 1 Reactor Operator. All three Charging Pumps have been identified as having suspect parts. You have been assigned to perform an inspection tour of all three Charging Pumps.

Initiating Cue

Evaluate the attached survey map for the areas you will be touring, the General Entry RWP and determine:

1. postings charging pump room #1, #2 & #3.
2. whether the Operations General Entry RWP will be sufficient for this tour.

START TIME: _____

<p>STEP 1: Determines that posting for Posting #1 is High Radiation Area</p> <p>STANDARD: HIGH RADIATION AREA</p> <p>EXAMINER'S CUE: NONE</p> <p>EVALUATORS NOTE: Specific RWP Required for Entry is also allowed but NOT Critical</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>
<p>STEP 2: Determines that posting for Posting #2 is Radiation Area and Contaminated Area</p> <p>STANDARD: RADIATION AREA AND CONTAMINATED AREA</p> <p>EXAMINER'S CUE: NONE</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>
<p>STEP 3: Determines that posting for Posting #3 is Radiation Area</p> <p>STANDARD: RADIATION AREA</p> <p>EXAMINER'S CUE: NONE</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>

<u>STEP 4:</u> Determines that Operations General Entry RWP will be sufficient for this tour.	CRITICAL STEP
<u>STANDARD:</u> OPERATIONS GENERAL ENTRY RWP WILL BE SUFFICIENT	
EXAMINER'S CUE: NONE	_____ SAT
<u>COMMENTS:</u> 	_____ UNSAT

STOP TIME: _____

CANDIDATE COPY
(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF ANSWER)

Initial Conditions

You are a Unit 1 Reactor Operator. All three Charging Pumps have been identified as having suspect parts. You have been assigned to perform an inspection tour of all three Charging Pumps.

Initiating Cue

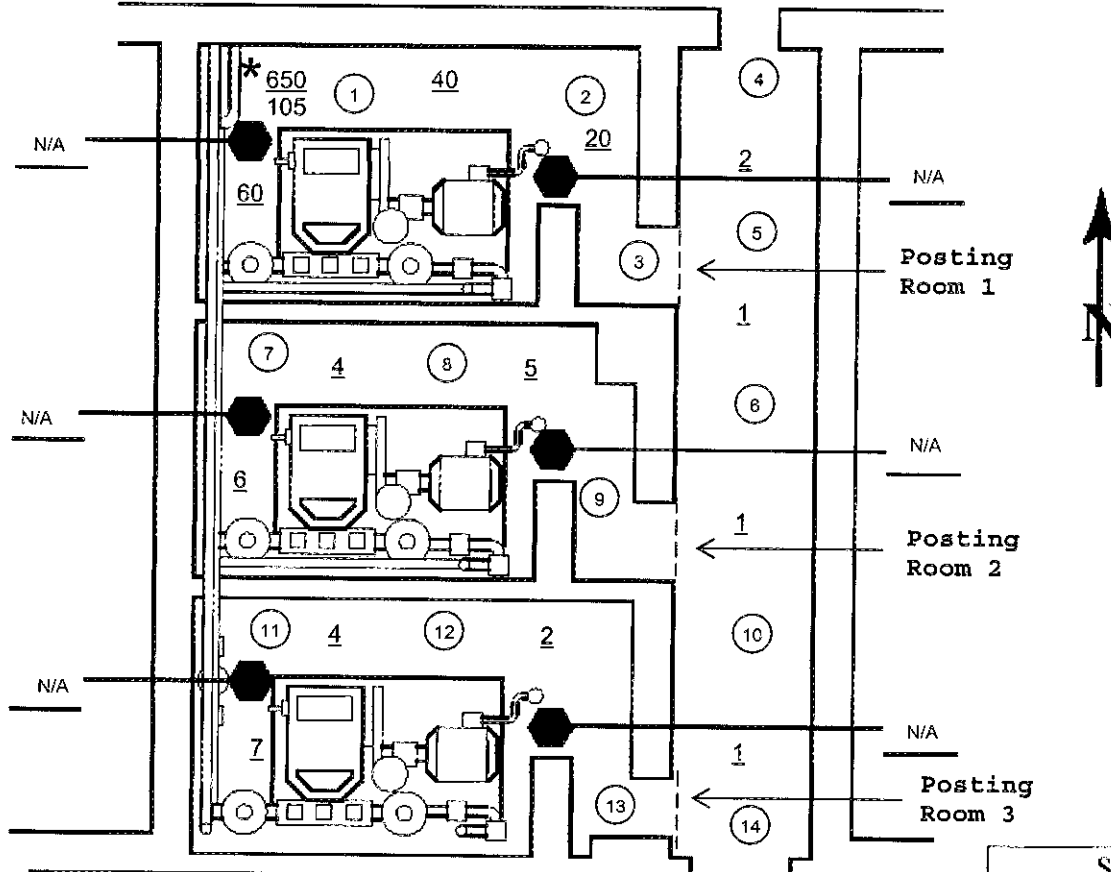
Evaluate the attached survey map for the areas you will be touring, the General Entry RWP and determine:

1. postings charging pump room #1, #2 & #3.
2. whether the Operations General Entry RWP will be sufficient for this tour.

HPS - 7

LOCATION:		CHARGING PUMPS - EL. -5 FT.	
DATE:	8-15-04	(G) GRAVE DANGER - VERY HIGH RAD AREA	(C) CONTAMINATED AREA
TIME:	0700	(L) LOCKED HIGH RAD AREA	(P) HOT PARTICLE AREA
RPT (PRINT):	L. Swift	(H) HIGH RAD AREA	(S) SPECIFIC RWP REQUIRED
RPT SIGNATURE:	<i>L. Swift</i>	(R) RADIATION AREA	(B) H.P. COVERAGE REQUIRED
RWP #:		(M) RADIOACTIVE MATERIAL	β MDA = < 1000 dpm
		(A) AIRBORNE RADIOACTIVITY AREA	α MDA = dpm
		(D) HIGHLY CONTAMINATED AREA	
INSTRUMENT TYPE / # R020/3603		INSTRUMENT TYPE / #	
INSTRUMENT TYPE / # L-177/21829		INSTRUMENT TYPE / #	
β/α		Masslinn	
SMEARS IN DPM / 100 CM ²		dpm / probe area	
1 <1K / 6 <1K / 11 <1K / 16 N/A / 21 N/A / 26 N/A /		No Y / N	
2 <1K / 7 2K / 12 <1K / 17 N/A / 22 N/A / 27 N/A /		A N/A N/A	
3 <1K / 8 2K / 13 <1K / 18 N/A / 23 N/A / 28 N/A /		B N/A N/A	
4 <1K / 9 2K / 14 <1K / 19 N/A / 24 N/A / 29 N/A /		C N/A N/A	
5 <1K / 10 <1K / 15 N/A / 20 N/A / 25 N/A / 30 N/A /		D N/A N/A	
		E N/A N/A	
		F N/A N/A	
		G N/A N/A	
LEGEND:		Reviewed By:	
* General Area Dose Rates		B. Gold	
○ Contact Dose Rate		Print Name	
△ Smear Location		Signature	
□ Neutron Dose Rate (microR/hr DDE)		8-15-04	
□ Beta Radiation in mRad/Hr		Date	
--- Radiation / Contaminated Boundry			

ALL READINGS IN MR/IR UNLESS OTHERWISE NOTED



REMARKS: Exposure Received Completing Survey: 5 mrem.

DATE	S I OPS
DOCT	SURVEY
DOCN	HPS-7
SYS	HP
COMP	
ITM	

COPY

RADIATION WORK PERMIT

DATE 1/1/2004 TIME 0:00 RWP NO. 04-0004 REV. 1 CLASS 1.16
ESTIMATED MANREM 1.754 EXPIRATION DATE 12/31/2004
RWP WRITTEN BY WMS EXTEND TO / INITIALS _____

JOB LOCATION:

UNIT 1 & 2 RCA AND RAB. (HRA)

WORK TO BE PERFORMED:

NUCLEAR OPERATIONS: ENTRY INTO RADIATION

CONTROLLED AREA AND THE REACTOR AUXILIARY BUILDING.

LOCATION	RADIATION LEVEL mREM/HR	CONTAMINATION DPM/100cm2	AIRBORNE ACTIVITY		
			PARTICULATE DAC	IODINE DAC	GAS mR/HR
19.5' RAB	SEE # 2.4	SEE # 2	< 25	< 25	< 1
5' RAB	SEE # 2.4	SEE # 2	< 25	< 25	< 1
RCA	SEE # 2.4	SEE # 2	N/A	N/A	N/A

RADIOLOGICAL REQUIREMENTS

NO PERSONAL OUTER CLOTHING		PAPER COVERALLS		WRIST EXTREMITY TLD's
CLOTH GLOVES		PLASTIC SUIT		ANKLE EXTREMITY TLD's
8 RUBBER GLOVES (1) PAIR	8	LAB COAT		MULTI-BADGE TLD's
PLASTIC SHOE COVERS 17" () PAIR		CAP		FACE SHIELD
SHOE COVERS 17" () PAIR		HOOD		RESPIRATORY PROTECTION
8 RUBBER SHOE COVERS "LOW"		PLASTIC HOOD		
8 SHOE COVERS "LOW"		TELEDOSIMETRY	9	MINIMUM DRESS EXCEPTION
PC COVERALLS			3	PERSONAL ALARMING MODULE (PAM)

SPECIAL INSTRUCTIONS

- CONTACT HP PRIOR TO ALL WORK ON THIS RWP. PERIODIC HP COVERAGE IS REQUIRED.
- FOR RADIOLOGICAL CONDITIONS REFER TO SURVEY MAPS AT HP OFFICE / RCA CONTROL POINT. UTILIZE LOW DOSE WAITING AREAS WHILE WORK IS NOT IN PROGRESS.
- PERSONAL ALARMING MODULE (PAM) IS REQUIRED TO BE WORN IN HIGH RADIATION AREAS AND AS DIRECTED BY HEALTH PHYSICS. CHECK EPD FREQUENTLY.
- HP WILL SET DOSE RATES FOR WORK IN HI-RAD AREAS. ENSURE PERSONNEL HAVE SIGNED IN ON HRA BRIEFING AND ENTRY LOG (HPP-3.5) PRIOR TO ENTRY INTO HRA'S.
- CONTACT HP PRIOR TO MOVING CONTAINERS OF RADIOACTIVE MATERIALS. HP COVERAGE REQUIRED FOR ENTRY INTO OVERHEAD AREAS.
- ADDITIONAL PC REQUIREMENTS WILL BE DETERMINED BY HP DEPENDING ON RADIOLOGICAL CONDITIONS.
- CONTACT HP PRIOR TO DRAINING WATER TO FLOOR DRAINS. ENSURE HOSE IS SECURED IN DRAIN. IN THE EVENT OF A SPILL, CONTAIN SPILL AND NOTIFY HP IMMEDIATELY.
- MINIMUM PC REQUIREMENTS IN CONTAMINATED AREA, CLOTH OR RUBBER BOOTIES AND RUBBER SURGEON GLOVES. A LAB COAT FOR WORK OR INSPECTIONS IN AREAS WHERE PERSONNEL MAY BRUSH UP AGAINST WALLS OR EQUIPMENT.
- SURGEON / RUBBER GLOVES ARE A MINIMUM REQUIREMENT TO MANIPULATE VALVES IN POSTED CONTAMINATED AREAS. THIS CAN BE DONE WHEN VALVE CAN BE REACHED FROM CLEAN SIDE AND ONLY THE HAND WILL TOUCH THE VALVE. CHANGE OUT GLOVES PRIOR TO HANDLING CLEAN MATERIAL AND EQUIPMENT. CLOTH GLOVES ARE NOT TO BE USED FOR PROTECTION FROM LOOSE CONTAMINATION.

- BAG ALL TOOLS, EQUIPMENT AND WASTE WHEN REMOVING THEM FROM A CONTAMINATED AREA. NOTIFY HP TO SURVEY AND TAG.
- UPON EXITING RCA USE IPM. AFTER REMOVAL OF PC'S USE IPM WEARING MODESTY CLOTHING PRIOR TO CHANGING INTO PERSONAL CLOTHING. IF IPM ALARMS CONTACT HP AT ONCE.
- EPD ALARM SETTING:
DOSE= 12 mREM
DOSE RATE= 300 mREM/HR

ALARA HOLDPOINTS

- IN THE EVENT OF AN EPD ALARM, LEAVE AREA IMMEDIATELY AND REPORT TO HP AT RCA CONTROL POINT.
- ENTRY INTO POSTED HIGH RADIATION AREAS ALLOWED BUT NOT TO EXCEED A DOSE RATE OF 300 mREM/HR FOR AREAS TO BE OCCUPIED.

15.
16.
17.

HP SUPERVISION APPROVAL

DATE

TIME

TERMINATED BY

DATE

TIME

REGION II
ST. LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM

EVALUATE PERSONNEL EXPOSURE LIMITS

CANDIDATE _____

EXAMINER _____

**REGION II
ST LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM**

EVALUATE PERSONNEL EXPOSURE LIMITS

KA Statement: Knowledge of 10 CFR: 20 and related facility radiation control requirements.

KA #: 2.3.1 (2.6 /3.0)

References: EPIP-02, Duties and Responsibilities of the Emergency Coordinator

Candidate: _____ **Time Start**
Name _____ **Time Finish**

Performance Rating: Sat _____ Unsat _____

Validation Time 20 minutes

Examiner: _____ **Signature:** _____

Comments

**REGION II
ST LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM**

EVALUATE PERSONNEL EXPOSURE LIMITS

Directions to the candidate for Administrative JPMS:

I will explain the initial conditions and state the task to be performed. You will be allowed to use any reference needed to complete the task. Ensure you indicate to me when you finish your assigned task by returning the material needed for the task that I provided to you.

Initial Conditions

A Large Break LOCA occurred on Unit 2 six hours ago. 2-EOP-03, "LOCA" is being used and all safety functions are being met. The 2B and 2C charging pumps are operable. An isolable leak had developed on the 2A Charging header and a reentry team that was attempting to close a valve to isolate the leak was unsuccessful due to a broken reach rod. Isolation of the leak is needed to prevent damage to the 2A Charging pump. Dose rates initially taken six (6) feet from the valve were 2R/hr. HP states that they will be working within two (2) feet of the valve to accomplish this task. The job is estimated to take 20 minutes to perform with ingress and egress dose negligible. Your current dose for the year is 20 mr.

Initiating Cue

As the EC (Emergency Coordinator) you have been asked to authorize a second reentry team tasked with disconnecting the reach rod linkage at the valve hand wheel and closing the valve. Determine the following:

1. Calculate dose that will be received while performing the task
2. Determine your allowable dose for this task
3. State whether this task will be allowable under current guidelines

START TIME: _____

<p>STEP 1: Calculate dose that will be received while performing the task.</p> <p>STANDARD: Use Inverse square law to calculate dose rate at 2 feet. $DR_2 = DR_1 (R_1)^2 / (R_2)^2$ $DR_2 = (2 \text{ R/hr}) (6 \text{ ft})^2 / (2 \text{ ft})^2 = 18 \text{ R/hr}$ Apply 20 minutes to work valve: $18 \text{ R/hr} \times 20 \text{ minutes} \times 1 \text{ hr}/60 \text{ minutes} = 6 \text{ R}$</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 2: Determine your allowable dose for this task</p> <p>STANDARD: DETERMINES ACTIONS THAT WOULD NOT DIRECTLY MITIGATE THE EVENT. LIMIT = 5 R</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 3: State whether this task will be allowable under current guidelines.</p> <p>STANDARD: NO 6 R > 5 R LIMIT</p> <p>EXAMINER'S CUE: ACKNOWLEDGE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

STOP TIME: _____

CANDIDATE COPY

(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF ANSWER)

Initial Conditions

A Large Break LOCA occurred on Unit 2 six hours ago. 2-EOP-03, "LOCA" is being used and all safety functions are being met. The 2B and 2C charging pumps are operable. An isolable leak had developed on the 2A Charging header and a reentry team that was attempting to close a valve to isolate the leak was unsuccessful due to a broken reach rod. Isolation of the leak is needed to prevent damage to the 2A Charging pump. Dose rates initially taken six (6) feet from the valve were 2R/hr. HP states that they will be working within two (2) feet of the valve to accomplish this task. The job is estimated to take 20 minutes to perform with ingress and egress dose negligible. Your current dose for the year is 20 mr.

Initiating Cue

As the EC (Emergency Coordinator) you have been asked to authorize a second reentry team tasked with disconnecting the reach rod linkage at the valve hand wheel and closing the valve. Determine the following:

1. calculate dose that will be received while performing the task
2. determine your allowable dose for this task
3. state whether this task will be allowable under current guidelines.

**FPL**

ST. LUCIE PLANT

EMERGENCY PLAN IMPLEMENTING PROCEDURE

SAFETY RELATED

Procedure No.

EPIP-02

Current Revision No.

13

Effective Date

06/29/04

Title:

DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR

Responsible Department: **EMERGENCY PLANNING****REVISION SUMMARY:**

Revision 13 – Incorporated PCR 04-2010 to incorporate instructions from NRC Safeguards Advisory for operating power reactors, SA-04-07. (R. Walker, 06/25/04)

Revision 12 - Incorporated PCR 03/1634 for PMAI 03-04-082 to incorporate shift communicator position. (A. Terezakis, 08/06/03)

AND

Incorporated PCR 03-0581 for CR 03-0246, CR 03-0953 to remove navigational degrees and supplement instructions regarding security events. (J. R. Walker, 07/18/03)

Revision 11 - Incorporated PCR #03-0024 for MAI MA 02-12-041 to clarify guidance regarding multiple events, add step to SAE checklist, and reorder plant announcement step. (J. Walker, 02/07/03)

Revision 10 - Clarified duties of DCS as phonetalker. Clarified checklists regarding steps not necessary in TSC. Made editorial/administrative changes. (J. R. Walker, 07/26/02)

Revision 9 – THIS PROCEDURE HAS BEEN COMPLETELY REWRITTEN. Added responsibility for information services to update checklists in CRs, deleted basis of exposure guidelines, added statement on EC coverage during a prolonged event, deleted emergency declaration checklist, revised emergency class checklists, added reference to EPIP-07 and made editorial and administrative changes. (J. R. Walker, 06/11/01)

Revision	FRG Review Date	Approved By	Approval Date	S___OPS	
0	12/15/97	J. Scarola	12/15/97	DATE	
		Plant General Manager		DOCT	PROCEDURE
				DOCN	EPIP-02
				SYS	
				COM	COMPLETED
				ITM	13
Revision	FRG Review Date	Approved By	Approval Date		
13	06/25/04	G. L. Johnston	06/28/04		
		Plant General Manager			
		N/A			
		Designated Approver			
		N/A			
		Designated Approver			
		(Minor Correction)			

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 2 of 37
PROCEDURE NO.: EPIP-02		

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1.0 PURPOSE

- 1.1** This procedure provides guidance and instructions to be followed by the Emergency Coordinator when an emergency occurs that requires the implementation of the Radiological Emergency Plan for St. Lucie Plant.

2.0 REFERENCES / RECORDS REQUIRED / COMMITMENT DOCUMENTS

NOTE

One or more of the following symbols may be used in this procedure:

§ Indicates a Regulatory commitment made by Technical Specifications, Condition of License, Audit, LER, Bulletin, Operating Experience, License Renewal, etc. and shall NOT be revised without Facility Review Group review and Plant General Manager approval.

¶ Indicates a management directive, vendor recommendation, plant practice or other non-regulatory commitment that should NOT be revised without consultation with the plant staff.

Ψ Indicates a step that requires a sign off on an attachment.

2.1 References

- 1.** St. Lucie Plant Updated Final Safety Analysis Report (UFSAR) Unit 1 and Unit 2 (Section 9.5.A.7.2)
- 2.** §₁ St. Lucie Plant Radiological Emergency Plan (E-Plan)
- 3.** St. Lucie Plant Physical Security Plan
- 4.** St. Lucie Plant Safeguards Contingency Plan
- 5.** E-Plan Implementing Procedures (EPIP 00-13)
- 6.** 10 CFR 50, Domestic Licensing of Production and Utilization Facilities.
- 7.** NUREG/BR-0150, Vol. 1, Response Technical Manual (USNRC).
- 8.** NUREG-0654, FEMA-REP-1, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.
- 9.** EPA 400-R-92-001, Manual of Protective Actions Guides and Protective Actions for Nuclear Incidents, October, 1991.

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2.2 Records Required

¶₁₀ A copy of the checklists or data generated by this procedure shall be maintained in the plant files in accordance with QI-17-PSL-1, Quality Assurance Records. Records include:

1. Emergency Class Checklists

2.3 Commitment Documents

1. ¶₁ PMAI PM96-04-165, "ITR 96-006" (Unusual Event Declared Due to Dropped Rod)
2. ¶₂ NRC Inspection Report 91-01, Closure of IFIs 89-31-03 and 89-31-01
3. ¶₃ PMAI PM96-09-185, Condition Report CR-96-1750 (Off-site Notification Using Commercial Phone)
4. ¶₅ PMAI PM96-05-233, Off-site Notification Process.
5. ¶₆ Condition Report CR 96-2389, Off-site Dose Calculations.
6. ¶₇ Condition Report CR 98-1536, EC Responsibilities Remain in the Control Room.
7. ¶₈ PMAI PM98-09-006, Control of NLOs Under E-Plan.
8. ¶₉ Condition Report CR 99-1406, Field Operator Dosimetry Under E-Plan.
9. ¶₁₀ PMAI PM99-10-191, Condition Report CR 99-1656 (Quality Records, Downpower Guidance Due to Hurricanes).
10. ¶₁₁ PMAI PM99-10-142, Condition Report CR 99-1647 (EC Turnover).
11. ¶₁₂ PMAI PM99-09-016, (PARs Based on FMT Data, Completion of NRC Notification Form).
12. ¶₁₃ PMAI PM00-01-043, Gai-Tronics E-Plan Alarm.
13. ¶₁₄ PMAI PM00-03-122, Early Activation of ERFs.
14. ¶₁₅ Condition Report CR 02-0333, Role of the Duty Call Supervisor.
15. ¶₁₆ NRC Interim Compensatory Measures (ICM), 25 February, 2002 (Response to Item B.5.d)
16. ¶₁₇ Condition Report CR 03-0246, (NRC Recommended Procedure Improvement Regarding Security Events)

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2.3 Commitment Documents (continued)

17. ¶18 NRC Safeguards Advisory for Operating Power Reactors, SA-04-07.

3.0 RESPONSIBILITIES

3.1 The Shift Manager (SM) and the shift operating staff represent the first line of response to any developing emergency condition. The primary responsibility of the SM is to control the condition as well as possible.

3.2 The SM upon declaration of an emergency classification becomes the Emergency Coordinator (EC). The SM remains the EC until the position is turned over.

Specific Responsibilities of the EC are:

Direction of the on-site emergency organization to bring the emergency under control.

Notification of off-site agencies within specific time limits as mandated by regulations.

Changes in Emergency Classification based on changing conditions.

Protective Action Recommendations (PARs) until turnover to the Recovery Manager.

Interfaces with the Nuclear Regulatory Commission (NRC) Reactor Safety Operations Coordinator (RSOC) when the NRC site team arrives at the TSC.

3.3 Information Services maintains user copies, in the Unit 1 and Unit 2 Control Rooms, of the following checklists used for implementing the Emergency Plan:

- Unusual Event Declaration Checklist
- Alert Declaration Checklist
- Site Area Emergency Declaration Checklist
- General Emergency Declaration Checklist

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EPIP-02		
<p>4.0 DEFINITIONS</p> <p>4.1 §1 Duty Call Supervisor (DCS) – The Duty Call Supervisor is a designated and trained supervisor assigned from the nuclear plant staff to provide 24-hour response to any emergency upon notification by the Nuclear Plant Supervisor. The Duty Call Supervisor (DCS) is responsible for notifying the Emergency Response Organization and, as requested, Plant management in the event of an emergency.</p> <p>4.2 Owner Controlled Area Evacuation (= Site Evacuation) - The evacuation from the owner controlled area of all personnel except those required to place the plant in a safe condition, the Emergency Response Organization (ERO), and Security personnel to fulfill responsibilities for evacuation.</p> <p>4.3 Release (during any declared emergency)</p> <p>1. Any effluent monitor increase of (approximately) 10 times or one decade above pre-transient values.</p> <p style="text-align: center;">OR</p> <p>2. Health Physics detecting airborne radioactivity levels in excess of 25% derived air concentration (DAC) outside of plant buildings due to failure of equipment associated with the declared emergency.</p> <p>4.4 Shift Communicator - a specific shiftly designated individual trained and qualified to assist the Nuclear Plant Supervisor / Emergency Coordinator in the control room in making emergency off-site notifications, and performing other activities as directed.</p>		

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5.0 INSTRUCTIONS

5.1 General Overview

1. ¶7.11 Upon Declaration of an emergency classification the SM becomes the EC.

To ensure access to the EC for direction and control decisions and so that the responsibilities of the position can be successfully completed, the EC position shall remain, initially in the affected Control Room and then in the Technical Support Center (TSC), when it goes operational.

Prior to the TSC being operational or in cases when there is a prolonged event such as a hurricane, the duties and responsibilities of the EC, while a Control Room position, may be turned over to another qualified EC:

CAUTION

There can NOT be two concurrent declared emergency classes under the St. Lucie Plant Radiological Emergency Plan.

- If the site is in a dual Unit event, the EC should locate in the Unit 1 Control Room (due to proximity to the TSC). If both units are experiencing independent and classifiable conditions, the EC should locate in the Unit Control Room with the [highest] classified event.

If the TSC is activated, Then the EC position is turned over to an EC qualified member of plant management and the position relocated to the TSC. The prospective EC receives a turnover (refer to Attachment 3, Turnover Guidelines) from the Control Room EC and then reports to the TSC. Following verification of TSC operational readiness, the prospective EC accepts EC responsibility from the Control Room EC. The TSC EC may temporarily turnover responsibility to the TSC OPS Coordinator as the need arises.

2. To meet the above responsibilities, plus others described in this procedure, the EC will likely need to delegate many tasks. Although delegated, the completion of these tasks is still the responsibility of the EC.

The EC shall not delegate the following responsibilities prior to Emergency Operations Facility (EOF) being declared operational:

- A. Classification of the emergency.
- B. The decision to notify state and local authorities and the content of those notifications.

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5.1 General Overview (continued)

2. (continued)

C. Recommendation of protective actions for the public.

Once the EOF is operational and proper turnover has been conducted, the Recovery Manager (RM) will assume responsibility for off-site notifications to the state and local authorities and for recommending off-site protective actions.

3. Order of Succession

If the SM is incapacitated, Then the EC shall be (in order of succession):

A. Assistant Nuclear Plant Supervisor (US) (from the affected unit)

B. Nuclear Watch Engineer (NWE)

C. Any other member of the plant staff with an active SRO license.

4. Watch Relief

A. The EC shall grant permission for watch relief, including his/her own, only when it is safe in his/her judgement to do so.

5. The Emergency Coordinator (EC) shall consider plant and radiological conditions as they relate to the emergency prior to ordering an evacuation and / or activation of the Emergency Response Organization (ERO). As conditions warrant, the EC may delay, postpone or institute special arrangements concerning, but not limited to:

A. Emergency Response Facility (ERF) activation

B. Local or Site Evacuation

C. Protected Area (PA) and / or Radiation Controlled Area (RCA) access

D. Operator field activities

E. Unit shutdown

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5.1 General Overview (continued)

6. Some examples of special circumstances and considerations are as follows:

A. Radiological Conditions

1. Duration of release ("puff" versus prolonged)
2. Meteorological conditions
3. Evacuation route availability
4. Sheltering
5. Route to ERFs
6. Plant conditions
7. Other information pertinent to radiation protection considerations

B. ^{16,17,18} Security Event

1. When the Control Room is contacted by any of the following: Security, NRC, FBI or NORAD that a terrorist attack on the plant site is imminent or is occurring, perform the actions in the applicable appendix to Security Force Instruction (SFI) #4, Appendix C, Unit 1 Operations Department Recommended Defensive Strategy or Appendix D, Unit 2 Operations Department Recommended Defensive Strategy.
2. Site Security and Local Law Enforcement Agencies (LLEA) will take the lead in response to a Security Event in accordance with the Security Plan.
3. Security events when known hazards or dangers (e.g., armed intruders, bomb threats, etc.) are perceived, consider:
 - a. Location of intruders
 - b. Bomb threat location
 - c. Modification of plant announcements if it is determined that such announcements may cause intruders to panic or make them aware of plant / Security personnel locations and / or responses
 - d. Directing ERO members to alternate locations

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5.1 General Overview (continued)

6. B. 3. (continued)

- e. Special instructions for non-essential plant personnel regarding movement on the plant site, sheltering or evacuation

7. ¶14 Early Activation of Emergency Response Facilities

It may be useful to have technical and/or operational support available early in an emergency prior to when the Technical Support Center (TSC), Operational Support Center (OSC), or Emergency Operations Facility (EOF) is required to be operational. Activation of any of these facilities does not require declaration of an emergency class or entry into a specific emergency classification. If early activation of one or more of the facilities is desired, then follow these guidelines:

- A. This is an option during normal working hours only.
- B. A page announcement should be made to request that appropriate Emergency Response Organization personnel to report to the [identify what facility/facilities is/are to be activated early].
- C. Turnover of EC responsibilities is done in accordance with Step 5.1.1, above.
- D. The E-Plan Activation Alarm is used only when the Emergency Response Facilities (ERFs) are to be activated in accordance with the requirements of the Emergency Plan (i.e., at the Alert or higher emergency level) and is provided for in the checklist included in this procedure.
- E. Staff augmentation due to actual facility activation is to be done in accordance with the Alert Declaration Checklist, Site Area Emergency Declaration Checklist or the General Emergency Declaration Checklist which are part of this procedure.

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5.1 General Overview (continued)

8. Severe Weather Considerations

¶₁₀ If a hurricane warning is in effect, and either one or both Unit(s) is/are in Mode 1, 2 or 3, Then use the following criteria for unit shutdown:

NOTE

Sustained hurricane force winds are sustained winds of 74 mph (64 kt or 119 kph) or greater.

- A. For storms projected to reach a Category 1 or 2, the Unit(s) shall be placed in HOT STANDBY (Mode 3) or below at least two (2) hours before the projected onset of sustained hurricane force winds within the Owner Controlled Area and both Units shall remain off-line for the duration of the hurricane force winds (or restoration of reliable offsite power).
- B. For storms projected to reach Category 3, 4 and 5 prior to landfall, the Units shall be shut down to a temperature less than 350 degrees T ave. at least two (2) hours before the projected onset of sustained hurricane force winds within the Owner Controlled Area and both Units shall remain off-line for the duration of the hurricane force winds (or restoration of reliable offsite power).
- C. Establish an acceptable update frequency with state and local officials.

9. Drill Messages

- A. During exercises, drills, or tests, **ALL MESSAGES** shall begin and end with **THIS IS A DRILL** or **THIS IS AN EXERCISE** or **THIS IS A TEST**.

END OF SECTION 5.1

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5.2 Unusual Event Declaration Checklist

TIME / INITIAL

Date: ____/____/____

CAUTION

Notification to the State Warning Point (SWP) shall occur within 15 minutes of declaration of the emergency classification.

NOTE

- Steps should be performed in the order presented. When conditions warrant, steps may be performed out of sequence.
- PA announcements are provided as a guideline. Actual announcements may vary from the text provided.
- Not Applicable (N/A) may be used for tasks / steps previously accomplished / satisfied.

1. Determine the following:

- | | | |
|----|---------------------------------------|-------|
| A. | Shift Technical Advisor (STA) present | Y / N |
| B. | Duty Call Supervisor (DCS) present | Y / N |
| C. | Shift Communicator present | Y / N |
| D. | Wind direction (from) | ____° |

NOTE

During any declared emergency, a release is occurring if one of the following is true:

- Any effluent monitor increase of (approximately) 10 times or one decade above pre-transient values.

OR

- Health Physics detecting airborne radioactivity levels in excess of 25 percent Derived Air Concentration (DAC) outside of plant buildings due to failure of equipment associated with the declared emergency.

- | | | | |
|----|---------------------|-------|-----------|
| E. | Release in progress | Y / N | ____/____ |
|----|---------------------|-------|-----------|

2. Mobilize emergency team personnel (i.e., Fire Team, First Aid Team) as required using Gai-tronics and boost function.

____/____

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5.2 Unusual Event Declaration Checklist (continued)

TIME / INITIAL

3. The SM shall declare the emergency to the Control Room staff and formally announce that he / she is the Emergency Coordinator. _____/_____

4. Notify plant personnel using Gai-tronics and boost function as follows:

"Attention all plant personnel, Unit 1 / 2 has declared an UNUSUAL EVENT. All personnel are to limit radio and phone use and listen for future instructions and further information."

Repeat the announcement. _____/_____

5. Notify the Shift Technical Advisor, Duty Call Supervisor, and the Shift Communicator, as appropriate to report to the Control Room using Gai-tronics and boost function. (N/A if already performed)

"Shift Technical Advisor report to the Unit 1 / 2 Control Room." _____/_____

"Duty Call Supervisor report to the Unit 1 / 2 Control Room." _____/_____

"Shift Communicator report to the Unit 1 / 2 Control Room." _____/_____

6. ¶₁₆ If a release of radioactive material has occurred or is in progress, Then notify Chemistry to promptly implement EPIP-09, Off-site Dose Calculations, and report the results to the Emergency Coordinator (EC). _____/_____

7. If a Chemist is unavailable, Then call-out a Chemist (this may be accomplished by the DCS). _____/_____

8. If evacuation of an area is necessary (refer to Attachment 2, Criteria for Evacuation), Then initiate a local evacuation. _____/_____

9. ¶₁₅ Complete required notifications in accordance with Appendix A, Notifications from the Affected Control Room, in EPIP-08, Off-site Notifications and Protective Action Recommendations. The DCS may be utilized as a phonetalker.

State Warning Point _____/_____

NRC _____/_____

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5.2 Unusual Event Declaration Checklist (continued)

TIME / INITIAL

- 10.** Ensure notification of the following: (this may be accomplished by the DCS)

Plant Management

___/___

Security

___/___

Nuclear Division Duty Officer (NDDO)

___/___

- 11.** Utilize Attachment 3, Turnover Guidelines when relinquishing duties to the oncoming EC.

___/___

NOTE

¶₂ New notification forms shall be completed for all updates.

- 12.** ¶₁₅ If a State / Local notification frequency has been negotiated, Then provide an update, as necessary utilizing a new notification form. The DCS may be utilized as a phonetalker. (Repeat as necessary)

___/___

___/___

___/___

___/___

___/___

- 13.** If the event can be terminated, Then complete the notification forms (State, NRC) and notify the following: (this may be accomplished by the DCS)

State Warning Point (SWP)

___/___

Plant Management

___/___

Security

___/___

NDDO

___/___

NRC

___/___

- 14.** UNUSUAL EVENT Declaration Checklist complete (emergency upgraded or event terminated).

___/___

END OF SECTION 5.2

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 15 of 37
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5.3 Alert Declaration Checklist

TIME / INITIAL

Date: ____/____/____

CAUTION

Notification to the State Warning Point (SWP) shall occur within 15 minutes of declaration of the emergency classification.

NOTE

- Steps should be performed in the order presented. When conditions warrant, steps may be performed out of sequence.
- PA announcements are provided as a guideline. Actual announcements may vary from the text provided.
- For assistance with exposure control, refer to:
 - Attachment 4, Field Operator Re-entry Guidelines
 - Attachment 5, Exposure Limits for Emergency Response Personnel
- Not Applicable (N/A) may be used for tasks / steps previously accomplished / satisfied.

1. Determine the following:

- | | | |
|-----------|---------------------------------------|-------|
| A. | Shift Technical Advisor (STA) present | Y / N |
| B. | Duty Call Supervisor (DCS) present | Y / N |
| C. | Shift Communicator present | Y / N |
| D. | Wind direction (from) | ____° |

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5.3 Alert Declaration Checklist (continued)

TIME / INITIAL

1. (continued)

NOTE

During any declared emergency, a release is occurring if one of the following is true:

- Any effluent monitor increase of (approximately) 10 times or one decade above pre-transient values.

OR

- Health Physics detecting airborne radioactivity levels in excess of 25 percent Derived Air Concentration (DAC) outside of plant buildings due to failure of equipment associated with the declared emergency.

E. Release in progress Y / N

F. E-Plan Alarm sounded and Emergency Response Facilities (ERFs) activated Y / N ____/____

2. Mobilize emergency team personnel (i.e., Fire Team, First Aid Team) as required using Gai-tronics and boost function. ____/____

3. The SM shall declare the emergency to the Control Room staff and formally announce that he / she is the Emergency Coordinator. ____/____

4. ¶₂ If a release of radioactive material is in progress, Then review personnel access with Health Physics personnel and notify Security personnel with any special instructions. ____/____

5. ¶₁₃ Sound the Emergency Plan (E-Plan) Activation Alarm. ____/____

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5.3 Alert Declaration Checklist (continued)

TIME / INITIAL

6. Notify plant personnel using Gai-tronics and boost function as follows:

"Attention all plant personnel, Unit 1 / 2 has declared an ALERT. All emergency response personnel report at once to your assigned emergency response facility."

"All non-emergency response personnel report to your normal work location or contact your supervisor. Please limit radio and phone use and listen for further instructions and further information."

Repeat the announcement.

___/___

7. Notify the Shift Technical Advisor, Duty Call Supervisor and the Shift Communicator, as appropriate to report to the Control Room using Gai-tronics and boost function. (N/A if already performed)

"Shift Technical Advisor report to the Unit 1 / 2 Control Room."

___/___

"Duty Call Supervisor report to the Unit 1 / 2 Control Room."

___/___

"Shift Communicator report to the Unit 1 / 2 Control Room."

___/___

8. Initiate the call-out process in accordance with EPIP-03, Emergency Response Organization Notification / Staff Augmentation (this may be accomplished by the DCS).

___/___

9. ¶₆ If a release of radioactive material has occurred or is in progress, Then notify Chemistry to promptly implement EPIP-09, Off-site Dose Calculations, and report the results to the Emergency Coordinator (EC).

___/___

10. If a Chemist is unavailable, Then call-out a Chemist (this may be accomplished by the DCS).

___/___

11. If evacuation of an area is necessary (refer to Attachment 2, Criteria for Evacuation), Then initiate a local evacuation.

___/___

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5.3 Alert Declaration Checklist (continued)

TIME / INITIAL

12. ¶15 Complete required notifications in accordance with Appendix A, Notifications from the Affected Control Room, in EPIP-08, Off-site Notifications and Protective Action Recommendations. The DCS may be utilized as a phonetalker.

State Warning Point

___/___

NRC

___/___

13. Ensure notification of the following: (this may be accomplished by the DCS)

Plant Management

___/___

Security

___/___

Nuclear Division Duty Officer (NDDO)

___/___

14. Initiate the Operations Department Accountability Aid for both Unit 1 and Unit 2 and provide this list to the TSC when requested. (this may be accomplished by the DCS)

___/___

15. ¶9 Ensure Operations field personnel return to their assigned Control Room and obtain emergency Electronic Personal Dosimetry (EPD) from the HP Emergency Kit.

___/___

16. Utilize Attachment 3, Turnover Guidelines when relinquishing duties to the oncoming EC.

___/___

NOTE

¶2 New notification forms shall be completed for all updates.

17. ¶15 If State / Local notification has not been completed in the last 60 minutes, Then provide a routine update utilizing a new notification form. The DCS may be utilized as a phonetalker. (Repeat as necessary)

___/___

___/___

___/___

___/___

___/___

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5.3 Alert Declaration Checklist (continued)

TIME / INITIAL

- 18.** If the event can be terminated, Then complete the notification forms (State, NRC) and notify the following: (this may be accomplished by the DCS)

State Warning Point (SWP)

___/___

Plant Management

___/___

Security

___/___

NDDO

___/___

NRC

___/___

- 19.** ALERT Declaration Checklist complete (emergency upgraded or event terminated).

___/___

END OF SECTION 5.3

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5.4 Site Area Emergency Declaration Checklist

TIME / INITIAL

Date: ____/____/____

CAUTION

Notification to the State Warning Point (SWP) shall occur within 15 minutes of declaration of the emergency classification.

NOTE

- Steps should be performed in the order presented. When conditions warrant, steps may be performed out of sequence.
- Steps with an asterisk are NOT applicable in the TSC.
- The Duty Call Supervisor (DSC) is available in the Control Room only.
- All Gai-tronics alarms and announcements require Control Room assistance.
- PA announcements are provided as a guideline. Actual announcements may vary from the text provided.
- For assistance with exposure control, refer to:
 - Attachment 4, Field Operator Re-entry Guidelines
 - Attachment 5, Exposure Limits for Emergency Response Personnel
- Not Applicable (N/A) may be used for tasks / steps previously accomplished / satisfied.

1. Determine the following:

- | | | |
|-------------|---------------------------------------|-------|
| * A. | Shift Technical Advisor (STA) present | Y / N |
| * B. | Duty Call Supervisor (DCS) present | Y / N |
| * C. | Shift Communicator present | Y / N |
| D. | Wind direction (from) | ____° |

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5.4 Site Area Emergency Declaration Checklist (continued)

TIME / INITIAL

1. (continued)

NOTE

During any declared emergency, a release is occurring if one of the following is true:

- Any effluent monitor increase of (approximately) 10 times or one decade above pre-transient values.

OR

- Health Physics detecting airborne radioactivity levels in excess of 25 percent Derived Air Concentration (DAC) outside of plant buildings due to failure of equipment associated with the declared emergency.

E. Release in progress Y / N

* F. E-Plan Alarm sounded and Emergency Response Facilities (ERFs) activated Y / N

G. Site evacuated Y / N

H. Site accountability Not Requested / In Progress / Complete

2. Mobilize emergency team personnel (i.e., Fire Team, First Aid Team) as required using Gai-tronics and boost function. ____/____

3. The SM shall declare the emergency to the facility staff and, as necessary, formally announce that he / she is the Emergency Coordinator. ____/____

4. ¶₂ If a release of radioactive material is in progress, Then review personnel access with Health Physics personnel and notify Security personnel with any special instructions. ____/____

5. ¶₁₃ Sound the Emergency Plan (E-Plan) Activation Alarm. (N/A if already preformed) ____/____

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5.4 Site Area Emergency Declaration Checklist (continued) TIME / INITIAL

- 6.** Notify plant personnel using Gai-tronics and boost function as follows: (N/A if facilities already activated)

"Attention all plant personnel, Unit 1 / 2 has declared a SITE AREA EMERGENCY. All emergency response personnel report at once to your assigned emergency response facility."

Repeat the announcement.

___/___

- 7.** If a SITE AREA EMERGENCY plant announcement has NOT been made, Then notify plant personnel using Gai-tronics and boost function:

"Attention all plant personnel, Unit 1/2 has declared a SITE AREA EMERGENCY."

Repeat the announcement.

___/___

- * 8.** Notify the Shift Technical Advisor, Duty Call Supervisor and the Shift Communicator, as appropriate to report to the Control Room using Gai-tronics and boost function. (N/A if already performed)

"Shift Technical Advisor report to the Unit 1 / 2 Control Room."

___/___

"Duty Call Supervisor report to the Unit 1 / 2 Control Room."

___/___

"Shift Communicator report to the Unit 1 / 2 Control Room."

___/___

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5.4 Site Area Emergency Declaration Checklist (continued)

TIME / INITIAL

NOTE

Site Evacuation Guidance

No release of radioactive material – send personnel home.

Current or prior release of radioactive material send personnel to the off-site assembly area.

- North to Jaycee Park if wind is from 240° through 60° (clock-wise direction)
- South to Jensen Public Beach Parking Area if wind is from 60° through 240° (clock-wise direction)

9. Sound the Site Evacuation Alarm. (N/A if already performed) ____/____

10. Notify plant personnel using Gai-tronics and boost function as follows: (N/A if already performed)

“Attention all non-emergency response plant personnel, you are directed to commence evacuation of the Owner Controlled Area, report to your vehicles and (Choose one):

Proceed to your homes.

OR

Proceed North / South away from the plant to Jaycee Park / Jensen Public Beach Parking Area for contamination check, accountability and further instructions.”

Repeat the announcement. ____/____

* 11. Initiate the call-out process in accordance with EPIP-03, Emergency Response Organization Notification / Staff Augmentation. (this may be accomplished by the DCS) (N/A if already performed) ____/____

12. ¶₆ If a release of radioactive material has occurred or is in progress, Then notify Chemistry to promptly implement EPIP-09, Off-site Dose Calculations, and report the results to the Emergency Coordinator (EC). ____/____

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5.4	Site Area Emergency Declaration Checklist (continued)	<u>TIME / INITIAL</u>
-----	---	-----------------------

13.	If a Chemist is unavailable, <u>Then</u> call-out a Chemist (this may be accomplished by the DCS).	___/___
14.	¶ ₁₅ Complete required notifications in accordance with Appendix A, Notifications from the Affected Control Room, in EPIP-08, Off-site Notifications and Protective Action Recommendations. The DCS may be utilized as a phonetalker.	
	State Warning Point	___/___
	NRC	___/___
15.	Ensure notification of the following: (this may be accomplished by the DCS)	
	Plant Management	___/___
	Security	___/___
	Nuclear Division Duty Officer (NDDO)	___/___
* 16.	Initiate the Operations Department Accountability Aid for both Unit 1 and Unit 2 and provide this list to the TSC when requested. (this may be accomplished by the DCS) (N/A if already performed)	___/___
* 17.	¶ ₉ Ensure Operations field personnel return to their assigned Control Room and obtain emergency Electronic Personal Dosimetry (EPD) from the HP Emergency Kit. (N/A if already performed)	___/___
18.	¶ ₈ Direct all Non-licensed Operators (NLOs), from both Units to report to the OSC (<u>when operational</u>) following evacuation of the Owner Controlled Area and completion of immediate Operator actions.	___/___
19.	Verify with Security that the evacuation of the Owner Controlled Area has been completed and all personnel have been accounted for.	___/___

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5.4 Site Area Emergency Declaration Checklist (continued) TIME / INITIAL

- 20.** Notify off-site agencies when evacuation is complete: (N/A if already performed)

State Warning Point

___/___

NRC

___/___

- 21.** Utilize Attachment 3, Turnover Guidelines when relinquishing duties to the oncoming EC.

___/___

NOTE

¶₂ New notification forms shall be completed for all updates.

- 22.** ¶₁₅ If State / Local notification has not been completed in the last 60 minutes, Then provide a routine update utilizing a new notification form. The DCS may be utilized as a phonetalker. (Repeat as necessary)

___/___

___/___

___/___

___/___

___/___

- 23.** Turnover off-site interface responsibilities (notifications and Protective Action Recommendations (PARs)) to the Recovery Manager (RM) when the EOF goes operational.

___/___

- 24.** At the direction of the RM, coordinate termination of the emergency and initiation of recovery planning.

___/___

- 25.** SITE AREA EMERGENCY Declaration Checklist complete (emergency upgraded or event terminated).

___/___

END OF SECTION 5.4

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 26 of 37
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5.5 General Emergency Declaration Checklist

TIME / INITIAL

Date: ____/____/____

CAUTION

- Protective Action Recommendations (PARs) are required for a General Emergency.
- Notification to the State Warning Point (SWP) shall occur within 15 minutes of declaration of the emergency classification.

NOTE

- Steps should be performed in the order presented. When conditions warrant, steps may be performed out of sequence.
- Steps with an asterisk are NOT applicable in the TSC.
- The Duty Call Supervisor (DSC) is available in the Control Room only.
- All Gai-tronics alarms and announcements require Control Room assistance.
- PA announcements are provided as a guideline. Actual announcements may vary from the text provided.
- For assistance with exposure control, refer to:
 - Attachment 4, Field Operator Re-entry Guidelines
 - Attachment 5, Exposure Limits for Emergency Response Personnel
- Not Applicable (N/A) may be used for tasks / steps previously accomplished / satisfied.

1. Determine the following:

- | | | |
|------|---------------------------------------|--------|
| * A. | Shift Technical Advisor (STA) present | Y / N |
| * B. | Duty Call Supervisor (DCS) present | Y / N |
| * C. | Shift Communicator present | Y / N |
| D. | Wind direction (from) | _____° |

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5.5 General Emergency Declaration Checklist (continued)

TIME / INITIAL

1. (continued)

NOTE

During any declared emergency a release is occurring if one of the following is true:

- Any effluent monitor increase of (approximately) 10 times or one decade above pre-transient values.

OR

- Health Physics detecting airborne radioactivity levels in excess of 25 percent Derived Air Concentration (DAC) outside of plant buildings due to failure of equipment associated with the declared emergency.

E. Release in progress Y / N

* F. E-Plan Alarm sounded and Emergency Response Facilities (ERFs) activated Y / N

G. Site Evacuation Alarm sounded and site evacuated Y / N

H. Site accountability Not Requested / In Progress / Complete

2. Mobilize emergency team personnel (i.e., Fire Team, First Aid Team) as required using Gai-tronics and boost function. ____/____

3. The SM shall declare the emergency to the facility staff and, as necessary, formally announce that he / she is the Emergency Coordinator. ____/____

4. ¶₂ If a radioactive release is in progress, Then review personnel access with Health Physics personnel and notify Security personnel with any special instructions. ____/____

5. ¶₁₃ Sound the Emergency Plan (E-Plan) Activation Alarm. (N/A if already preformed) ____/____

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5.5 General Emergency Declaration Checklist (continued)

TIME / INITIAL

- 6.** Notify plant personnel using Gai-tronics and boost function as follows: (N/A if facilities already activated)

"Attention all plant personnel, Unit 1 / 2 has declared a GENERAL EMERGENCY. All emergency response personnel report at once to your assigned emergency response facility."

Repeat the announcement.

____/____

- 7.** If a GENERAL EMERGENCY plant announcement has not been made, Then notify plant personnel using Gai-tronics and boost function:

"Attention all plant personnel, Unit 1 / 2 has declared a GENERAL EMERGENCY."

Repeat the announcement.

____/____

- * **8.** Notify the Shift Technical Advisor, Duty Call Supervisor and the Shift Communicator, as appropriate to report to the Control Room using Gai-tronics and boost function. (N/A if already performed)

"Shift Technical Advisor report to the Unit 1 / 2 Control Room."

____/____

"Duty Call Supervisor report to the Unit 1 / 2 Control Room."

____/____

"Shift Communicator report to the Unit 1 / 2 Control Room."

____/____

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 29 of 37
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5.5 General Emergency Declaration Checklist (continued)

TIME / INITIAL

NOTE

Site Evacuation Guidance

No release of radioactive material – send personnel home.

Current or prior release of radioactive material send personnel to the off-site assembly area.

- North to Jaycee Park if wind is from 240° through 60° (clock-wise direction)
- South to Jensen Public Beach Parking Area if wind is from 60° through 240° (clock-wise direction)

9. Sound the Site Evacuation Alarm. (N/A if already performed) ____/____

10. Notify plant personnel using Gai-tronics and boost function as follows: (N/A if site evacuated)

“Attention all plant personnel, Unit 1 / 2 has declare a GENERAL EMERGENCY, all non-emergency response plant personnel are directed to commence evacuation of the Owner Controlled Area, report to your vehicles and (Choose one):

Proceed to your homes.

OR

Proceed North / South away form the plant to Jaycee Park / Jensen Public Beach Parking Area for contamination check, accountability and further instructions.”

Repeat the announcement. ____/____

* 11. Initiate the call-out process in accordance with EPIP-03, Emergency Response Organization Notification / Staff Augmentation. (this may be accomplished by the DCS) (N/A if already performed) ____/____

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5.5 General Emergency Declaration Checklist (continued)

TIME / INITIAL

12. ¶₆ If a radioactive release has occurred or is in progress, Then notify Chemistry to promptly implement EPIP-09, Off-site Dose Calculations, and report the results to the Emergency Coordinator (EC). ___/___
13. If a Chemist is unavailable, Then call-out a Chemist (this may be accomplished by the DCS). ___/___
14. Complete required notifications in accordance with Appendix A, Notifications from the Affected Control Room, in EPIP-08, Off-site Notifications and Protective Action Recommendations. The DCS may be utilized as a phonetalker.

State Warning Point ___/___

NRC ___/___
15. Ensure notification of the following: (this may be accomplished by the DCS)

Plant Management ___/___

Security ___/___

Nuclear Division Duty Officer (NDDO) ___/___
- * 16. Initiate the Operations Department Accountability Aid for both Unit 1 and Unit 2 and provide this list to the TSC when requested. (this may be accomplished by the DCS) (N/A if already performed) ___/___
- * 17. ¶₉ Ensure Operations field personnel return to their assigned Control Room and obtain emergency Electronic Personal Dosimetry (EPD) from the HP Emergency Kit. (N/A if already performed) ___/___
18. ¶₈ Direct all Non-licensed Operators (NLOs), from **both** Units to report to the OSC (when operational) following evacuation of the Owner Controlled Area and completion of immediate Operator actions. (N/A if already performed) ___/___
19. Verify with Security that the evacuation of the Owner Controlled Area has been completed and all personnel have been accounted for. (N/A if already performed) ___/___

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5.5 General Emergency Declaration Checklist (continued)

TIME / INITIAL

- 20.** Notify off-site agencies when evacuation is complete: (N/A if already performed)

State Warning Point

___/___

NRC

___/___

- 21.** Utilize Attachment 3, Turnover Guidelines when relinquishing duties to the oncoming EC.

___/___

NOTE

¶₂ New notification forms shall be completed for all updates.

- 22.** **¶₁₅** If State / Local notification has not been completed in the last 60 minutes, Then provide a routine update utilizing a new notification form. The DCS may be utilized as a phonetalker. (Repeat as necessary)

___/___

___/___

___/___

___/___

___/___

- 23.** Turnover off-site interface responsibilities (notifications and Protective Action Recommendations (PARs)) to the Recovery Manager (RM) when the EOF goes operational.

___/___

- 24.** At the direction of the RM, coordinate termination of the emergency and initiation of recovery planning.

___/___

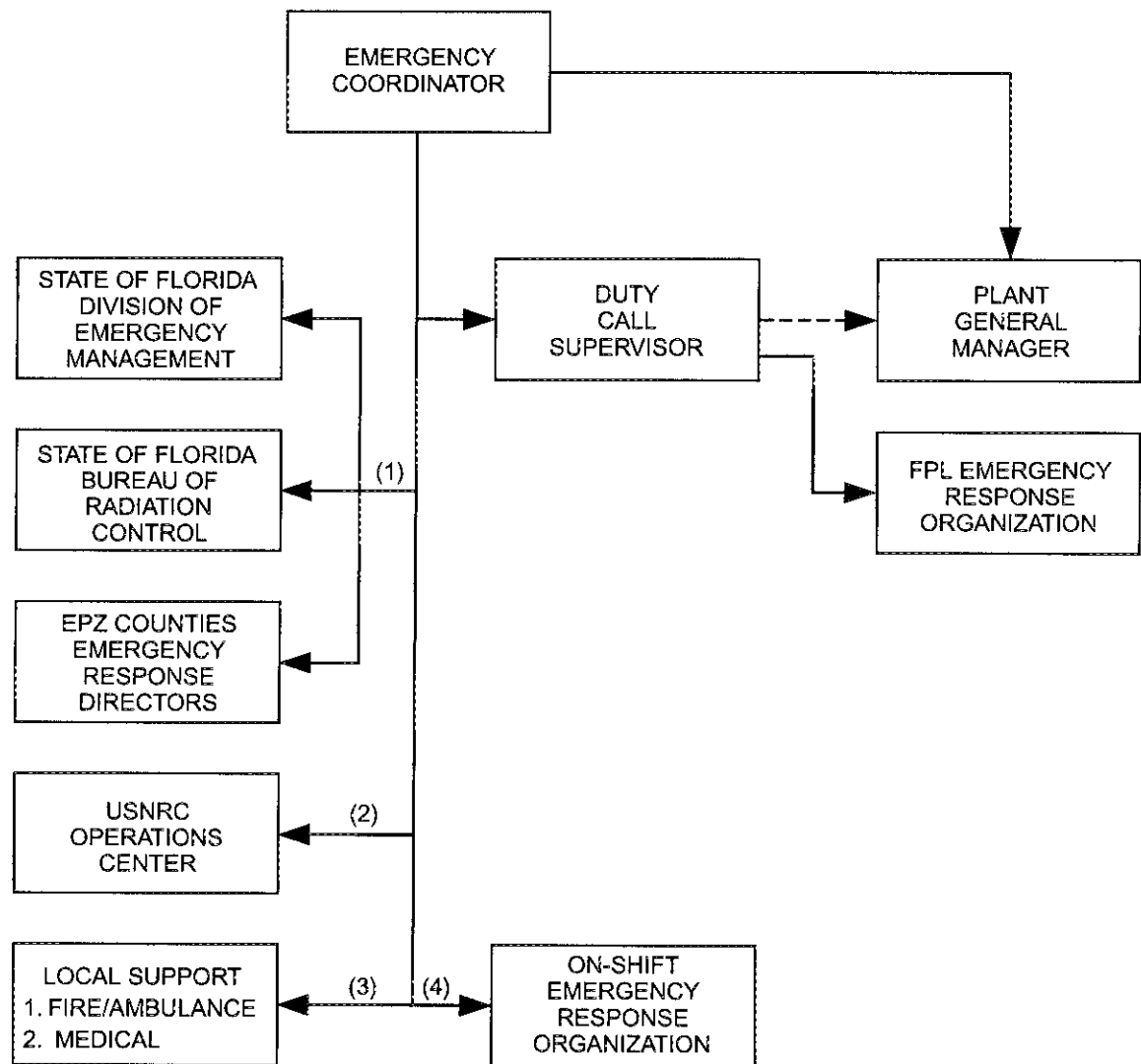
- 25.** GENERAL EMERGENCY Declaration Checklist complete (event terminated).

___/___

END OF SECTION 5.5

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ATTACHMENT 1
INITIAL NOTIFICATION FLOW
 (Page 1 of 1)



Legend:

- Primary Notification Pathway
- - - Alternate Notification Pathway

- (1) Via State Hot Ring Down Telephone (HRD)
- (2) Via Emergency Notification System (ENS)
- (3) Medical & Fire Emergencies Only, As Needed
- (4) Via Plant Public Address System (PA)

(DIPSI EPLAN-F1.2-R35)

END OF ATTACHMENT 1

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 33 of 37
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ATTACHMENT 2
CRITERIA FOR EVACUATION

(Page 1 of 1)

A. Criteria for Local Evacuation

The need for Local Evacuation should be determined in accordance with the following criteria:

Evacuate the affected local area in which any of the following conditions occur:

1. Area Radiation Monitor Alarm.
2. Containment Evacuation Alarm.
3. Unevaluated direct radiation dose rate increase in excess of 100 mRem/hour above normal levels.
4. Unexpected airborne radioactivity concentration in excess of 1×10^{-9} micro Ci/cc.
5. Removable radioactive surface contamination in an unposted area in excess of 1000 dpm/100 cm² beta-gamma over an area of 100 ft².
6. Removable radioactive surface contamination in an unposted area in excess of 50 dpm/100cm² alpha over an area of 100 ft².
7. The Emergency Coordinator determines that a situation exists for which Local Evacuation is appropriate.

B. Criteria for Owner Controlled Area Evacuation

The Owner Controlled Area shall be evacuated in the following circumstances:

1. Site Area Emergency
2. General Emergency
3. If the Emergency Coordinator determines that the entire Owner Controlled Area should be evacuated.

C. Refer to EPIP-07, Conduct of Evacuations / Assembly, for more information.

END OF ATTACHMENT 2

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 34 of 37
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ATTACHMENT 3
TURNOVER GUIDELINES
(Page 1 of 2)

Upon arrival at the affected Control Room, the prospective Emergency Coordinator should review the following items/issues with the Control Room Emergency Coordinator (not in a particular order):

NOTE

This information (1-10 below) should be reviewed with the Duty Call Supervisor.

1. Type of accident or incident
2. Plant status
3. Equipment out-of-service
4. Operator actions underway
5. Radiological conditions
6. Meteorological conditions
7. Procedure status
8. Emergency Plan activities underway, including any on-site or off-site protective actions
9. Conditions and/or trends of concern
10. Personnel injuries or radiation exposures

For an Alert or higher emergency, complete the following:

1. Prior to leaving Control Room verify the status of the following:
 - A. Emergency classification
 - B. Off-site notifications

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ATTACHMENT 3
TURNOVER GUIDELINES

(Page 2 of 2)

2. Bring the following items to the Technical Support Center:
 - A. Copy of RCO log (entries from start of the event)
 - B. Completed notification forms (State and NRC)
 - C. Operations Accountability Aid (only if completed)

END OF ATTACHMENT 3

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 36 of 37
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ATTACHMENT 4
FIELD OPERATOR RE-ENTRY GUIDELINES

(Page 1 of 1)

CAUTION

As specified in ADM-17.09, Invoking 10 CFR 50.54(x), the Emergency Coordinator (EC) may (with the concurrence of a licensed senior operator) waive re-entry requirements to place the plant in a safe shutdown condition or mitigate a release, if this immediate action is needed to protect the health and safety of the public.

1. Prior to evacuation and with the Operational Support Center (OSC) NOT operational.

Re-entry guidelines do not apply.

2. Prior to evacuation and with the OSC operational.

¶₈ Operators in the field should return to the Control Rooms and obtain an Electronic Personal Dosimeter (EPD) from the Health Physics Emergency Kit prior to returning to field.

3. ¶₈ Evacuation ordered and with the OSC NOT operational.

Operator actions in the field must be viewed as re-entry activities. Operators shall return to the Control Rooms following the evacuation order. Operators shall obtain an Electronic Personal Dosimeter (EPD) from the Health Physics Emergency Kit, if not done previously. Re-entry into the plant requires:

- A.** The EC (initially the SM) authorize the entry.
- B.** Maintenance of appropriate radiological and safety measures.
- C.** Tracking the whereabouts of the team.

4. Evacuation ordered and with the OSC operational

- A.** NLOs, from both Units, are to report to the OSC once it is declared operational.
- B.** All field activities are re-entries and shall be coordinated and controlled by the OSC.

END OF ATTACHMENT 4

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 37 of 37
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ATTACHMENT 5

§1

EXPOSURE LIMITS FOR EMERGENCY RESPONSE PERSONNEL

(Page 1 of 1)

NOTE

- Both Total Dose (TEDE) and Thyroid Dose (CDE) should be used for purposes of controlling exposure.
- Protective clothing, including respirators, should be used where appropriate.

For the following missions, the exposure limit is ⁽¹⁾ :	Total Dose ⁽²⁾ (TEDE)	THYROID ⁽³⁾ (CDE)
Performance of actions that would not directly mitigate the event, minimize escalation, or minimize effluent releases.	5 REM	50 REM
Performance of actions that mitigate the escalation to the event, rescue persons from a <u>non-life</u> threatening situation, minimize exposures or minimize effluent releases.	10 REM	100 REM
Performance of actions that decrease the severity of the event or terminate the processes causing the event in an attempt to control effluent releases to avoid extensive exposure of large populations. Also, rescue of persons from a <u>life-threatening</u> situation.	25 REM	250 REM
Rescue of person from a <u>life-threatening</u> situation. (Volunteers ⁽⁴⁾ should be above the age of 45.)	(5)	(5)

- Exposure limits to the lens of the eye are 3 times the Total Dose (TEDE) values listed.
- Total Dose (TEDE) is the total whole body exposure from both external and internal (weighted) sources - Total Effective Dose Equivalent.
- Thyroid Dose (CDE) commitment from internal sources - Committed Dose Equivalent. The same dose limits also apply to other organs (CDE), skin (Shallow Dose Equivalent) and extremities (Extremity Dose Equivalent).
- Volunteers with full awareness of risks involved including numerical levels of dose at which acute effects of radiation will be incurred and numerical estimates of the risk of delayed effects.
- No upper limit for Total Dose (TEDE) and/or Thyroid Dose (CDE) exposure has been established because it is not possible to prejudge the risks that one person should be allowed to take to save the life of another. Also, no specific limit is given for thyroid exposure since in the extreme case, complete thyroid loss might be an acceptable sacrifice for a life saved. This should not be necessary if respirators and/or thyroid protection for rescue personnel are available as the result of adequate planning.

END OF ATTACHMENT 5

REGION II
ST. LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM

DETERMINE PARS DURING A CORE MELT SCENARIO

CANDIDATE _____

EXAMINER _____

DETERMINE PARS DURING A CORE MELT SCENARIO

References:

ST. LUCIE TRAINING DEPT.
ADMINISTRATIVE JPM
PAGE 2

**REGION II
ST LUCIE NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
ADMINISTRATIVE JPM**

DETERMINE PARS DURING A CORE MELT SCENARIO

Directions to the candidate for Administrative JPMS:

I will explain the initial conditions and state the task to be performed. You will be allowed to use any reference needed to complete the task. Ensure you indicate to me when you finish your assigned task by returning the material needed for the task that I provided to you.

Initial Conditions

Unit 1 has the following conditions:

- A Loss of Offsite Power / LOCA has occurred, with Classifications and Notifications made.
- 1B Emergency Diesel Generator tripped on differential current shortly after starting and cannot be restarted.
- All High Pressure Safety Injection flow was terminated when the 1A High Pressure Safety Injection Pump coupling sheared. (All other ESFAS Equipment is operating as designed)
- Four out of eight available CET temperatures are now indicating in excess of 900° F.
- This will be the third message being sent from the Control Room.
- TSC, OSC and EOF have been activated but are yet NOT operational.
- All personnel reported to the Control Room during the previous classification.
- Site Accountability is In Progress.
- 10 Meter wind speed is 12 mph and direction is 56°.

Initiating Cue

You are the Shift Manager/Emergency Coordinator. Classify and complete the State of Florida Notification Form for this event. ***This is a time-critical JPM.***

START TIME: _____

<p>EPIP-01 Classification Table</p> <p>STEP 1: The SM shall classify the abnormal condition in accordance with EPIP-01 "Classification of Emergencies".</p> <p>STANDARD: CLASSIFY EAL as GENERAL EMERGENCY due to Event/Class 6.A, LOCA with failure of ECCS leading to severe core degradation or melt.</p> <p>EXAMINER'S CUE: None</p> <p>EXAMINER'S NOTE: Record the time initial event Declaration is made _____. This must be within 15 of JPM Start Time</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>EPIP-02 Step 5.5</p> <p>STEP 2: Using the General Emergency Declaration Checklist from EPIP-02, Determine the following:</p> <ul style="list-style-type: none">A. STA presentB. DCS presentC. Shift Communicator presentD. Wind DirectionE. Release in progressF. E-Plan Alarm sounded and emergency response facilities activated.G. Site Evacuation Alarm sounded and site evacuatedH. Site accountability <p>STANDARD: DETERMINE the following:</p> <ul style="list-style-type: none">A. STA present YB. DCS present YC. Shift Communicator present YD. Wind Direction 56°E. Release in progress NF. E-Plan Alarm sounded and emergency response facilities activated. YG. Site Evacuation Alarm sounded and site evacuated YH. Site accountability In Progress <p>EXAMINER'S CUE: NONE</p> <p>COMMENTS:</p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

<p><u>STEP 3:</u> Mobilize emergency team personnel (Fire Team, First Aid Team) as required using Gai-tronics and boost function.</p> <p><u>STANDARD:</u> RECOGNIZE Fire Team and First Aid Team not required.</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 4:</u> The SM shall declare the emergency to the facility staff and, as necessary, formally announce that he/she is the Emergency Coordinator.</p> <p><u>STANDARD:</u> FORMALLY ANNOUNCE to the Control Room staff that a GENERAL EMERGENCY has been declared due to LOCA with failure of ECCS leading to severe core degradation or melt and that he is the EC.</p> <p>EXAMINER'S CUE: ACKNOWLEDGE FORMAL ANNOUNCEMENT.</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 5:</u> If a radioactive release is in progress, Then review personnel access with Health Physics personnel and notify Security personnel with any special instructions.</p> <p><u>STANDARD:</u> Radioactive Release is NOT in progress.</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

<p><u>STEP 6:</u> Sound the Emergency Plan (E-PLAN) Activation Alarm. (N/A if already performed)</p> <p><u>STANDARD:</u> N/A if already performed</p> <p>EXAMINERS CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 7:</u> Notify plant personnel using Ga-itronics and boost function as follows: (N/A if facilities already activated)</p> <p><u>STANDARD:</u> N/A, Facility already activated</p> <p>EXAMINER'S CUE: NONE or ACKNOWLEDGE ANNOUNCEMENT</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 8:</u> If a GENERAL EMERGENCY plant announcement has not been made, <u>Then</u> notify plant personnel using Gai-tronics and boost function:</p> <p><u>STANDARD:</u> ANNOUNCE: "Attention all plant personnel, Unit 1 has declared a GENERAL EMERGENCY."</p> <p>Repeat the announcement.</p> <p>EXAMINER'S CUE: ACKNOWLEDGE ANNOUNCEMENT</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

<p><u>STEP 9:</u> Notify the Shift Technical Advisor, Duty Call Supervisor and the Shift Communicator, as appropriate to report to the Control Room using Galectronics and boost function. (N/A if already performed)</p> <p> "Shift Technical Advisor report to the Unit 1/2 Control Room"</p> <p> "Duty Call Supervisor report to the Unit 1/2 Control Room"</p> <p> "Shift Communicator report to the Unit 1/2 Control Room"</p> <p><u>STANDARD:</u> N/A, already performed.</p> <p> EXAMINER'S CUE: NONE or ACKNOWLEDGE ANNOUNCEMENT</p> <p> <u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 10:</u> Sound the Site Evacuation Alarm. (N/A if already performed)</p> <p><u>STANDARD:</u> N/A, already performed.</p> <p> EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

<p>STEP 11: Notify plant personnel using Gai-tronics and boost function as follows: (N/A if site evacuated)</p> <p>"Attention all plant personnel, Unit 1 has declared a GENERAL EMERGENCY, all non-emergency response plant personnel are directed to commence evacuation of the Owner Controlled Area, report to your vehicle and (Choose one):</p> <p style="padding-left: 40px;">Proceed to your homes</p> <p style="text-align: center;">OR</p> <p style="padding-left: 40px;">Proceed North/ South away from the plant to Jaycee Park / Jensen Public Beach Parking Area for contamination check, accountability and further instructions.</p> <p style="padding-left: 40px;">Repeat announcement</p> <p>STANDARD: N/A site evacuated</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 12: Initiate the call-out process in accordance with EPIP-03, ERO Notification/Staff Augmentation (this may be accomplished by the DCS) (N/A if already performed)</p> <p>STANDARD: N/A already performed.</p> <p>EXAMINER'S CUE: N/A, already performed</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

<p>STEP 13: <u>If</u> a release of radioactive material has occurred or in progress, <u>Then</u> notify Chemistry to promptly implement EPIP-09, Off-site Dose Calculations, and report the results to the Emergency Coordinator (EC).</p> <p>STANDARD: <u>RECOGNIZE</u> release is NOT occurring.</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 14: <u>If</u> a Chemist is unavailable, <u>Then</u> call-out a Chemist (this may be accomplished by the DCS).</p> <p>STANDARD: <u>DETERMINES</u> if a Chemist is available</p> <p>EXAMINER'S CUE: CHEMIST AVAILABLE</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 12: Complete required notifications in accordance with Appendix A, Notifications from the Affected Control Room, in EPIP-08, Off-site Notifications and Protective Action Recommendations. The DSC may be utilized to perform off-site notification.</p> <p>State Warning Point</p> <p>STANDARD: <u>STARTS</u> Attachment 1 from EPIP-08 'Florida Nuclear Plant Emergency Notification Form'.</p> <p>EXAMINER'S CUE: Hand student EPIP-08</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

<p>EPIP-08 Attachment 1</p> <p>STEP 13: Check appropriate box for drill or actual emergency as the case may be. During exercises, drills, or tests, each message shall be checked THIS IS A DRILL.</p> <p>STANDARD: CHECK THIS IS A DRILL</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>
<p>STEP 14: Enter today's date.</p> <p>STANDARD: ENTER the current date.</p> <p>EXAMINER'S CUE: NONE</p> <p>EVALUATOR'S NOTE: 2B is completed when contact with State Warning Point is made</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>
<p>STEP 15: Enter the name of the person making the notification call.</p> <p>STANDARD: ENTER Candidates name.</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>

<p><u>STEP 16:</u> Enter the message number.</p> <p><u>STANDARD:</u> ENTER 3</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 17:</u> Check where notification is being made from.</p> <p><u>STANDARD:</u> CHECK Control Room</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 18:</u> Check the box for the facility from which the notification is being made.</p> <p><u>STANDARD:</u> CHECK St. Lucie Unit 1</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

<p>STEP 19: Check the box corresponding to current accident classification declared.</p> <p>STANDARD: <u>CHECK</u> General Emergency</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>
<p>STEP 20: Check the box for the appropriate plant site for the emergency declaration.</p> <p>STANDARD: <u>CHECK</u> Emergency Declaration.</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>
<p>STEP 21: Enter the date and time when the current emergency classification was declared</p> <p>STANDARD: <u>CHECK</u> General Emergency</p> <p>EXAMINER'S CUE: Should be same time as Step 1 of JPM</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>

<p><u>STEP 22:</u> Reason for Emergency Declaration</p> <p><u>STANDARD:</u> CHECK "B" Description</p> <p>LOCA with failure of ECCS leading to severe core degradation or melt.</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 23:</u> Additional Information or Update</p> <p><u>STANDARD:</u> CHECK "A" None</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>
<p><u>STEP 24:</u> Weather Data.</p> <p><u>STANDARD:</u> A. Wind direction <u>56°</u> B. Downwind Sectors Affected <u>K</u>, <u>L</u>, <u>M</u>, <u>N</u></p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>

<p><u>STEP 25:</u> Release Status</p> <p><u>STANDARD:</u> CHECK "A" None (Go To Item 11)</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>																
<p><u>STEP 26:</u> Release Significance Category</p> <p><u>STANDARD:</u> Do Not Check Any Box in Item 10</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>																
<p>EPIP-08 Attachment 2 (Page 4 of 5)</p>																	
<p><u>STEP 27:</u> Determination of Protective Actions Recommendations (PARs)</p> <p><u>STANDARD:</u> DETERMINES Severe Core Damage per Note 1, (loss of injection with LOCA and Validate CET > 700°F)</p> <table border="1" style="margin: 10px auto; width: 80%; border-collapse: collapse; text-align: center;"> <tr> <th><u>Miles</u></th> <th><u>No Action Sectors</u></th> <th><u>Evacuate Sectors</u></th> <th><u>Shelter Sectors</u></th> </tr> <tr> <td>0 - 2</td> <td>None</td> <td>All</td> <td>None</td> </tr> <tr> <td>2 - 5</td> <td>None</td> <td>(Sectors Affected)</td> <td>All Remaining</td> </tr> <tr> <td>5 - 10</td> <td>None</td> <td>None</td> <td>All</td> </tr> </table> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<u>Miles</u>	<u>No Action Sectors</u>	<u>Evacuate Sectors</u>	<u>Shelter Sectors</u>	0 - 2	None	All	None	2 - 5	None	(Sectors Affected)	All Remaining	5 - 10	None	None	All	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<u>Miles</u>	<u>No Action Sectors</u>	<u>Evacuate Sectors</u>	<u>Shelter Sectors</u>														
0 - 2	None	All	None														
2 - 5	None	(Sectors Affected)	All Remaining														
5 - 10	None	None	All														

STEP 28: Utility Recommended Protective Actions

STANDARD: **CHECK "B" and CHECK "Miles"**

<u>Miles</u>	<u>No Action Sectors</u>	<u>Evacuate Sectors</u>	<u>Shelter Sectors</u>
0 - 2	None	All	None
2 - 5	None	K L M N	All Remaining
5 - 10	None	None	All

EXAMINER'S CUE: NONE

COMMENTS:

CRITICAL STEP

____ SAT

____ UNSAT

STEP 29: Consideration Issuance of KI:

STANDARD: **CHECK NO**

EXAMINER'S CUE: NONE

COMMENTS:

CRITICAL STEP

____ SAT

____ UNSAT

STEP 30: Plant Conditions

STANDARD: **Leave Blank**

EXAMINER'S CUE: NONE

COMMENTS:

____ SAT

____ UNSAT

<p><u>STEP 31:</u> EC or RM Approval</p> <p><u>STANDARD:</u> Sign, Date and Time on EC Approval Signature</p> <p>EXAMINER'S CUE: NONE</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
---	---

<p>STEP (done): Using the State HOT RING DOWN (HRD) Phone, dial 100. Transmit the information from ATTACHMENT 1, EPIP-08.</p> <p>STANDARD: Information TRANSMITTED within 15 minutes of classifying event</p> <p>EXAMINER'S CUE: ACKNOWLEDGE GENERAL EMERGENCY CHECKLIST DATE, MESSAGE #, TIME AND INITIALS ARE INSERTED AS APPROPRIATE FOR EACH STEP.</p> <p>EXAMINER'S NOTE: RECORD THE TIME TRANSMISSION BEGINS _____ * TASK IS COMPLETE, COLLECT THE STATE NOTIFICATION FORM.</p> <p>*MUST BE \leq 15 MINUTES FROM STEP 1 INITIAL CLASSIFICATION TIME.</p> <p><u>COMMENTS:</u></p> <p style="text-align: center;">END OF TASK</p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
--	---

STOP TIME: _____

ATTACHMENT 1
FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM
(Page 1 of 1)

On-line Verification: ☐ SWP/DEM ☐ St. Lucie County ☐ Martin County

1. A. ☒ THIS IS A DRILL B. ☐ THIS IS AN EMERGENCY
2. A. Date: D / AT / E B. Contact Time: TIME C. Reported by: (Name) Candidate
D. Message Number: 3 E. Reported from: ☒ Control Room ☐ TSC ☐ EOF
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 C. ☐ Site Area Emergency
B. ☐ Alert D. ☒ General Emergency
5. A. ☒ Emergency Declaration: B. ☐ Emergency Termination: Date: D / AT / E Time: TIME
6. Reason for Emergency Declaration:* A. ☐ EAL Number OR B. ☒ Description:
Loss Of Coolant Accident with failure of Emergency Core Cooling System
leading to severe core degradation or melt.
7. Additional Information or Update: A. ☒ None OR B. ☐
8. Weather Data: A. Wind direction from 56 degrees B. Downwind Sectors Affected: K, L, M, N
9. Release Status: A. ☒ None (Go to Item 11) B. ☐ Is occurring C. ☐ Has occurred, but stopped
10. Release Significance Category (at the Site Boundary):
A. ☐ Information not available at this time.
B. ☐ Release within normal operating limits (≤ 3.5 E-1 Ci/sec noble gas, ≤ 4.6 E-5 Ci/sec iodine)
C. ☐ Non-Significant Fraction of PAG Range (release is $>$ normal limits and $<$ 500 mrem TEDE and 1000 mrem CDE)
D. ☐ PAG Range (≥ 500 mrem TEDE or ≥ 1000 mrem CDE)

11. Utility Recommended Protective Actions:

- A. ☐ No recommended actions at this time.
B. ☒ The utility recommends the following protective actions:
- | Miles | No Action Sectors | Evacuate Sectors | Shelter Sectors |
|--------|-------------------|------------------|-------------------|
| 0 - 2 | <u>None</u> | <u>ALL</u> | <u>None</u> |
| 2 - 5 | <u>None</u> | <u>KLMN</u> | <u>All Remain</u> |
| 5 - 10 | <u>None</u> | <u>None</u> | <u>All</u> |
- OR
- Shelter Zones / Areas: _____
Evacuate Zones / Areas: _____

C. Consider Issuance of KI: ☐ Yes ☒ No

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: ☐ N/A OR
- A. ☐ Noble Gases _____ Curies per second B. ☐ Iodines _____ Curies per second
- C. Airborne: Date Started / / Time Started _____ Date Stopped / / Time Stopped _____
D. Liquid: Date Started / / Time Started _____ Date Stopped / / Time Stopped _____
- | Distance | Projected Thyroid Dose (CDE) for 1 Hour | Projected Total Dose (TEDE) for 1 Hour |
|------------------------|---|--|
| 1 Mile (Site Boundary) | E. _____ mrem | F. _____ mrem |
| 2 Miles | G. _____ mrem | H. _____ mrem |
| 5 Miles | I. _____ mrem | J. _____ mrem |
| 10 Miles | K. _____ mrem | L. _____ mrem |
- EC or RM Approval Signature: Candidate Date: D / AT / E Time: 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 line 15.

ANSWER KEY

REVISION NO.: 7	PROCEDURE TITLE: CLASSIFICATION OF EMERGENCIES	PAGE: 26 of 32
PROCEDURE NO.: EPIP-01	ST. LUCIE PLANT	

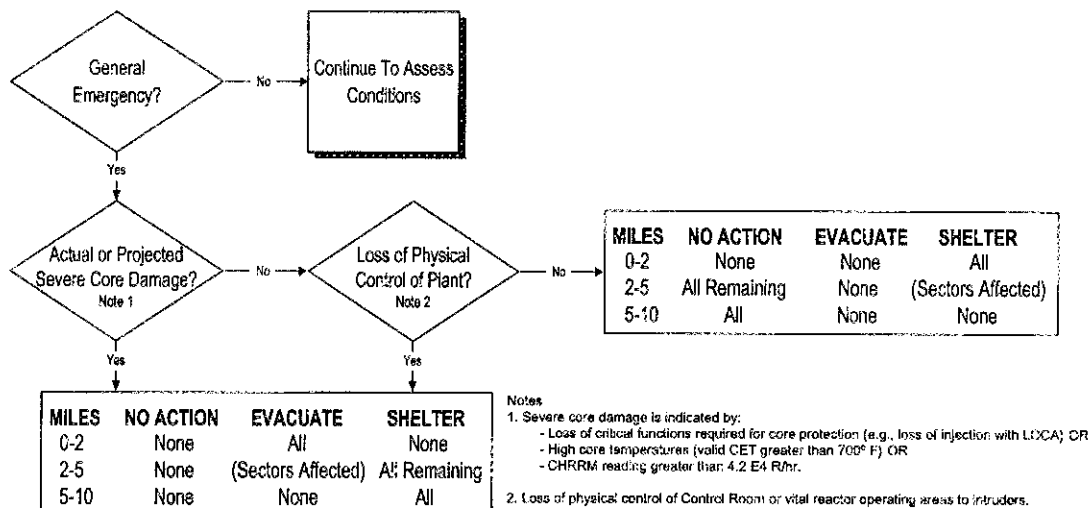
ATTACHMENT 1
EMERGENCY CLASSIFICATION TABLE
 (Page 14 of 20)

NOTE
 Activation of the Emergency Response Facilities does not require declaration of an emergency or entry into a specific emergency classification.

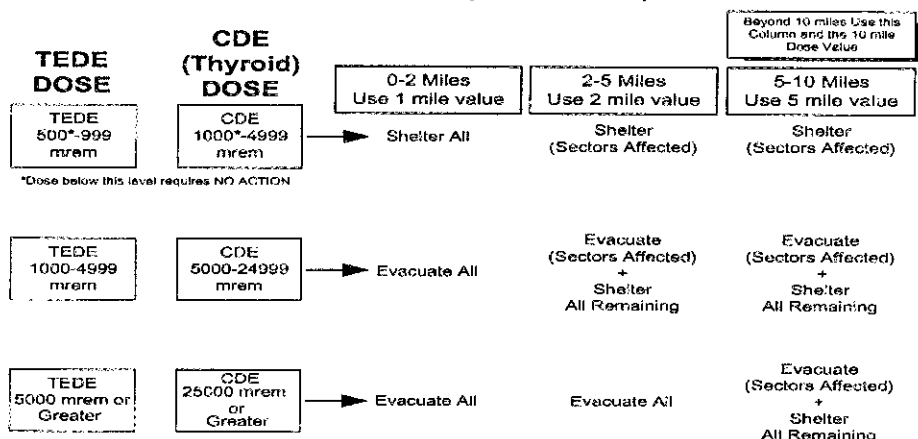
EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
6.A. <u>INCREASED AWARENESS OR POTENTIAL CORE MELT</u> (Page 1 of 2)	<p><u>Emergency Coordinator's judgement that plant conditions exist which warrant increased awareness on the part of the operating staff and/or local authorities.</u></p> <p>1. The plant is shutdown under abnormal conditions (e.g., exceeding cooldown rates or primary system pipe cracks are found during operation). <u>OR</u> 2. Any plant shutdown required by Technical Specifications in which the required shutdown is not reached within action limits.</p>	<p>§2 <u>Emergency Coordinator's judgement that plant conditions exist which have a potential to degrade the level of safety at the plant.</u></p>	<p>§2 <u>Emergency Coordinator's judgement that plant conditions exist which are significantly degrading in an uncontrollable manner.</u></p>	<p>§2 <u>Emergency Coordinator's judgement that plant conditions exist that make release of large amounts of radioactivity in a short period appear possible or likely. (Any core melt situation.)</u></p> <p>1. LOCA with failure of ECCS leading to severe core degradation or melt. <u>OR</u> 2. LOCA with initially successful ECCS and subsequent failure of containment heat removal systems for greater than 2 hours. <u>OR</u> 3. Total loss of feedwater followed by failure of once-through-cooling (ECCS) to adequately cool the core. <u>OR</u> 4. Failure of off-site and on-site power along with total loss of feedwater makeup capability for greater than 2 hours. <u>OR</u> 5. ATWS occurs which results in core damage or causes failure of core cooling and make-up systems. <u>OR</u> 6. Any major internal or external event (e.g., fire, earthquake or tornado substantially beyond design basis) which in the ECs opinion has or could cause massive damage to plant systems resulting in any of the above.</p>
6.A. <u>INCREASED AWARENESS OR POTENTIAL CORE MELT</u>				(continued on next page)

AFTER CLASSIFYING, GO TO EPIP-02, DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR

ATTACHMENT 2
DETERMINATION OF PROTECTIVE ACTION RECOMMENDATIONS (PARs)
 (Page 4 of 5)



PARs Based on Off-Site Dose
 (For use with manual dose calculation only. Not to be completed when Class A Model is used)



Use the following terms in this table: **NONE, ALL, ALL REMAINING** or fill in the letters of the sectors affected.

TEDE DOSE	Miles	NO ACTION	EVACUATE	SHELTER
	0-2			
	2-5			
	5-10			
	> 10			

Use the following terms in this table: **NONE, ALL, ALL REMAINING** or fill in the letters of the sectors affected.

CDE (Thyroid) DOSE	Miles	NO ACTION	EVACUATE	SHELTER
	0-2			
	2-5			
	5-10			
	> 10			

(PL/HEPIP-08/APP C-R1)

REVISION NO.: 6A	PROCEDURE TITLE: OFF-SITE NOTIFICATIONS AND PROTECTIVE ACTION RECOMMENDATIONS ST. LUCIE PLANT	PAGE: 45 of 49
PROCEDURE NO.: EPIP-08		

ATTACHMENT 2
DETERMINATION OF PROTECTIVE ACTION RECOMMENDATIONS (PARs)
 (Page 5 of 5)

PAR WORKSHEET

Time / Date _____ Emergency Class: ☐ SAE ☐ GE

A. PAR Comparison

After comparing the possible recommendations from the PARs flowchart, the most conservative PARs are based on: (check one)

☐ PLANT CONDITIONS ☐ OFF-SITE DOSE

B. Protective Actions Recommended by FPL:

Use the following terms in this table: **NONE, ALL, ALL REMAINING** Or fill in the **letters of the sectors affected.**

	NO ACTION SECTORS	EVACUATE SECTORS	SHELTER SECTORS
0-2 miles			
2-5 miles			
5-10 miles			
10-TBD miles*			

*If necessary, add to State Notification Form.

Control Room

Signature _____
 Emergency Coordinator

Technical Support Center

Signature _____
 TSC EC Assistant / Logkeeper TSC HP Supervisor or TSC Chemistry Supervisor

Emergency Operations Facility

Signature _____
 EOF RM OPS Advisor / Logkeeper EOF HP Manager

END OF ATTACHMENT 2

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 26 of 37
PROCEDURE NO.: EPIP-02		

5.5 General Emergency Declaration Checklist

TIME / INITIAL

Date: ____/____/____

CAUTION

- Protective Action Recommendations (PARs) are required for a General Emergency.
- Notification to the State Warning Point (SWP) shall occur within 15 minutes of declaration of the emergency classification.

NOTE

- Steps should be performed in the order presented. When conditions warrant, steps may be performed out of sequence.
- Steps with an asterisk are NOT applicable in the TSC.
- The Duty Call Supervisor (DSC) is available in the Control Room only.
- All Gai-tronics alarms and announcements require Control Room assistance.
- PA announcements are provided as a guideline. Actual announcements may vary from the text provided.
- For assistance with exposure control, refer to:
 - Attachment 4, Field Operator Re-entry Guidelines
 - Attachment 5, Exposure Limits for Emergency Response Personnel
- Not Applicable (N/A) may be used for tasks / steps previously accomplished / satisfied.

1. Determine the following:

- | | | |
|------|---------------------------------------|-------|
| * A. | Shift Technical Advisor (STA) present | Y / N |
| * B. | Duty Call Supervisor (DCS) present | Y / N |
| * C. | Shift Communicator present | Y / N |
| D. | Wind direction (from) | ____° |

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 27 of 37
PROCEDURE NO.: EPIP-02		

5.5 General Emergency Declaration Checklist (continued)

TIME / INITIAL

1. (continued)

NOTE

During any declared emergency a release is occurring if one of the following is true:

- Any effluent monitor increase of (approximately) 10 times or one decade above pre-transient values.

OR

- Health Physics detecting airborne radioactivity levels in excess of 25 percent Derived Air Concentration (DAC) outside of plant buildings due to failure of equipment associated with the declared emergency.

E. Release in progress Y / N

* F. E-Plan Alarm sounded and Emergency Response Facilities (ERFs) activated Y / N

G. Site Evacuation Alarm sounded and site evacuated Y / N

H. Site accountability Not Requested / In Progress / Complete

2. Mobilize emergency team personnel (i.e., Fire Team, First Aid Team) as required using Gai-tronics and boost function. ____/____

3. The SM shall declare the emergency to the facility staff and, as necessary, formally announce that he / she is the Emergency Coordinator. ____/____

4. ¶₂ If a radioactive release is in progress, Then review personnel access with Health Physics personnel and notify Security personnel with any special instructions. ____/____

5. ¶₁₃ Sound the Emergency Plan (E-Plan) Activation Alarm. (N/A if already preformed) ____/____

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 28 of 37
PROCEDURE NO.: EPIP-02		

5.5 General Emergency Declaration Checklist (continued)

TIME / INITIAL

- 6.** Notify plant personnel using Gai-tronics and boost function as follows: (N/A if facilities already activated)

"Attention all plant personnel, Unit 1 / 2 has declared a GENERAL EMERGENCY. All emergency response personnel report at once to your assigned emergency response facility."

Repeat the announcement.

___/___

- 7.** If a GENERAL EMERGENCY plant announcement has not been made, Then notify plant personnel using Gai-tronics and boost function:

"Attention all plant personnel, Unit 1 / 2 has declared a GENERAL EMERGENCY."

Repeat the announcement.

___/___

- * **8.** Notify the Shift Technical Advisor, Duty Call Supervisor and the Shift Communicator, as appropriate to report to the Control Room using Gai-tronics and boost function. (N/A if already performed)

"Shift Technical Advisor report to the Unit 1 / 2 Control Room."

___/___

"Duty Call Supervisor report to the Unit 1 / 2 Control Room."

___/___

"Shift Communicator report to the Unit 1 / 2 Control Room."

___/___

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 29 of 37
PROCEDURE NO.: EPIP-02		

5.5 General Emergency Declaration Checklist (continued)

TIME / INITIAL

NOTE

Site Evacuation Guidance

No release of radioactive material – send personnel home.

Current or prior release of radioactive material send personnel to the off-site assembly area.

- North to Jaycee Park if wind is from 240° through 60° (clock-wise direction)
- South to Jensen Public Beach Parking Area if wind is from 60° through 240° (clock-wise direction)

9. Sound the Site Evacuation Alarm. (N/A if already performed) ____/____

10. Notify plant personnel using Gai-tronics and boost function as follows: (N/A if site evacuated)

“Attention all plant personnel, Unit 1 / 2 has declare a GENERAL EMERGENCY, all non-emergency response plant personnel are directed to commence evacuation of the Owner Controlled Area, report to your vehicles and (Choose one):

Proceed to your homes.

OR

Proceed North / South away form the plant to Jaycee Park / Jensen Public Beach Parking Area for contamination check, accountability and further instructions.”

Repeat the announcement. ____/____

* 11. Initiate the call-out process in accordance with EPIP-03, Emergency Response Organization Notification / Staff Augmentation. (this may be accomplished by the DCS) (N/A if already performed) ____/____

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 30 of 37
PROCEDURE NO.: EPIP-02		

5.5 General Emergency Declaration Checklist (continued)

TIME / INITIAL

12. ¶₁₆ If a radioactive release has occurred or is in progress, Then notify Chemistry to promptly implement EPIP-09, Off-site Dose Calculations, and report the results to the Emergency Coordinator (EC). _____/_____

13. If a Chemist is unavailable, Then call-out a Chemist (this may be accomplished by the DCS). _____/_____

14. Complete required notifications in accordance with Appendix A, Notifications from the Affected Control Room, in EPIP-08, Off-site Notifications and Protective Action Recommendations. The DCS may be utilized as a phonetalker.

State Warning Point _____/_____

NRC _____/_____

15. Ensure notification of the following: (this may be accomplished by the DCS)

Plant Management _____/_____

Security _____/_____

Nuclear Division Duty Officer (NDDO) _____/_____

* 16. Initiate the Operations Department Accountability Aid for both Unit 1 and Unit 2 and provide this list to the TSC when requested. (this may be accomplished by the DCS) (N/A if already performed) _____/_____

* 17. ¶₁₉ Ensure Operations field personnel return to their assigned Control Room and obtain emergency Electronic Personal Dosimetry (EPD) from the HP Emergency Kit. (N/A if already performed) _____/_____

18. ¶₁₈ Direct all Non-licensed Operators (NLOs), from **both** Units to report to the OSC (when operational) following evacuation of the Owner Controlled Area and completion of immediate Operator actions. (N/A if already performed) _____/_____

19. Verify with Security that the evacuation of the Owner Controlled Area has been completed and all personnel have been accounted for. (N/A if already performed) _____/_____

CANDIDATE COPY
(TO BE RETURNED TO THE EXAMINER UPON COMPLETION OF ANSWER)

Initial Conditions

Unit 1 has the following conditions:

- A Loss of Offsite Power / LOCA has occurred, with Classifications and Notifications made.
- 1B Emergency Diesel Generator tripped on differential current shortly after starting and cannot be restarted.
- All High Pressure Safety Injection flow was terminated when the 1A High Pressure Safety Injection Pump coupling sheared. (All other ESFAS Equipment is operating as designed)
- Four out of eight available CET temperatures are now indicating in excess of 900° F.
- This is will be the third message being sent from the Control Room.
- TSC, OSC and EOF have been activated but are yet NOT operational.
- All personnel reported to the Control Room during the previous classification.
- Site Accountability is In Progress.
- 10 Meter wind speed is 12 mph and direction is 56°.

Initiating Cue

You are the Shift Manager/Emergency Coordinator. Classify and complete the State of Florida Notification Form for this event. ***This is a time-critical JPM***

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 12 of 37
PROCEDURE NO.: EPIP-02		

5.2 Unusual Event Declaration Checklist

TIME / INITIAL

Date: ____/____/____

CAUTION

Notification to the State Warning Point (SWP) shall occur within 15 minutes of declaration of the emergency classification.

NOTE

- Steps should be performed in the order presented. When conditions warrant, steps may be performed out of sequence.
- PA announcements are provided as a guideline. Actual announcements may vary from the text provided.
- Not Applicable (N/A) may be used for tasks / steps previously accomplished / satisfied.

1. Determine the following:

- | | | |
|----|---------------------------------------|-------|
| A. | Shift Technical Advisor (STA) present | Y / N |
| B. | Duty Call Supervisor (DCS) present | Y / N |
| C. | Shift Communicator present | Y / N |
| D. | Wind direction (from) | ____° |

NOTE

During any declared emergency, a release is occurring if one of the following is true:

- Any effluent monitor increase of (approximately) 10 times or one decade above pre-transient values.

OR

- Health Physics detecting airborne radioactivity levels in excess of 25 percent Derived Air Concentration (DAC) outside of plant buildings due to failure of equipment associated with the declared emergency.

- | | | | |
|----|---------------------|-------|-----------|
| E. | Release in progress | Y / N | ____/____ |
|----|---------------------|-------|-----------|

- #### 2. Mobilize emergency team personnel (i.e., Fire Team, First Aid Team) as required using Gai-tronics and boost function.
- ____/____

REVISION NO.: <div style="text-align: center; border: 1px solid black; padding: 2px;">13</div>	PROCEDURE TITLE: <div style="text-align: center; border: 1px solid black; padding: 5px;"> DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT </div>	PAGE: <div style="text-align: center; border: 1px solid black; padding: 2px;">13 of 37</div>
PROCEDURE NO.: <div style="text-align: center; border: 1px solid black; padding: 2px;">EPIP-02</div>		

5.2 Unusual Event Declaration Checklist (continued)

3. The SM shall declare the emergency to the Control Room staff and formally announce that he / she is the Emergency Coordinator. ___/___

4. Notify plant personnel using Gai-tronics and boost function as follows:

"Attention all plant personnel, Unit 1 / 2 has declared an UNUSUAL EVENT. All personnel are to limit radio and phone use and listen for future instructions and further information."

Repeat the announcement. ___/___

5. Notify the Shift Technical Advisor, Duty Call Supervisor, and the Shift Communicator, as appropriate to report to the Control Room using Gai-tronics and boost function. (N/A if already performed)

"Shift Technical Advisor report to the Unit 1 / 2 Control Room." ___/___

"Duty Call Supervisor report to the Unit 1 / 2 Control Room." ___/___

"Shift Communicator report to the Unit 1 / 2 Control Room." ___/___

6. ¶₆ If a release of radioactive material has occurred or is in progress, Then notify Chemistry to promptly implement EPIP-09, Off-site Dose Calculations, and report the results to the Emergency Coordinator (EC). ___/___

7. If a Chemist is unavailable, Then call-out a Chemist (this may be accomplished by the DCS). ___/___

8. If evacuation of an area is necessary (refer to Attachment 2, Criteria for Evacuation), Then initiate a local evacuation. ___/___

9. ¶₁₅ Complete required notifications in accordance with Appendix A, Notifications from the Affected Control Room, in EPIP-08, Off-site Notifications and Protective Action Recommendations. The DCS may be utilized as a phonetalker.

State Warning Point ___/___

NRC ___/___

TIME / INITIAL

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 14 of 37
PROCEDURE NO.: EPIP-02		

5.2 Unusual Event Declaration Checklist (continued) TIME / INITIAL

- 10.** Ensure notification of the following: (this may be accomplished by the DCS)
- Plant Management ___/___
- Security ___/___
- Nuclear Division Duty Officer (NDDO) ___/___
- 11.** Utilize Attachment 3, Turnover Guidelines when relinquishing duties to the oncoming EC. ___/___

NOTE

¶₂ New notification forms shall be completed for all updates.

- 12.** ¶₁₅ If a State / Local notification frequency has been negotiated, Then provide an update, as necessary utilizing a new notification form. The DCS may be utilized as a phonetalker. (Repeat as necessary) ___/___
- ___/___
- ___/___
- ___/___
- ___/___
- ___/___
- 13.** If the event can be terminated, Then complete the notification forms (State, NRC) and notify the following: (this may be accomplished by the DCS)
- State Warning Point (SWP) ___/___
- Plant Management ___/___
- Security ___/___
- NDDO ___/___
- NRC ___/___
- 14.** UNUSUAL EVENT Declaration Checklist complete (emergency upgraded or event terminated). ___/___

END OF SECTION 5.2

REVISION NO.: 6A	PROCEDURE TITLE: OFF-SITE NOTIFICATIONS AND PROTECTIVE ACTION RECOMMENDATIONS ST. LUCIE PLANT	PAGE: 18 of 49
PROCEDURE NO.: EPIP-08		

APPENDIX A
NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM
(Page 1 of 4)

INITIAL

CAUTION

- §₁ Notification of State and local agencies shall be made as soon as practicable within 15 minutes of declaration of an Emergency Class.
- ¶₃ A new Florida Nuclear Plant Emergency Notification Form shall be completed for all updates.

NOTE

- ¶₉ 1. Completion of this checklist requires the following Attachments (all from EPIP-08):
- Attachment 1 – Florida Nuclear Plant Emergency Notification Form
- Attachment 1A – Directions for Completing the Florida Nuclear Plant Emergency Notification Form
- Attachment 2 – Determination of Protective Action Recommendations (PARs)
- Attachment 3 – NRC Reactor Plant Event Notification Worksheet
- Attachment 3A – Directions for Completing the NRC Reactor Plant Event Notification Worksheet
2. Checklist Part 1 is for State Warning Point notification.
3. Checklist Part 2 is for NRC notification.

1. State Warning Point Notification
- A. Prepare the Florida Nuclear Plant Emergency Notification Form (form similar to Attachment 1) in accordance with Attachment 1A, Directions for Completing the Florida Nuclear Plant Emergency Notification Form. _____
- B. Emergency Coordinator (EC) approval: _____

REVISION NO.: 6A.	PROCEDURE TITLE: OFF-SITE NOTIFICATIONS AND PROTECTIVE ACTION RECOMMENDATIONS ST. LUCIE PLANT	PAGE: 19 of 49
PROCEDURE NO.: EPIP-08		

APPENDIX A
NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM
(Page 2 of 4)

1. (continued) INITIAL

NOTE

1. Primary notification method to the State Warning Point (SWP) is to use the Hot Ring Down (HRD) phone.
2. If the HRD is out-of-service, alternate notification methods are provided in Section E, below.

- C. Using the State HOT RING DOWN (HRD) Phone, dial 100. _____
- D. Hold down the button on the handset while talking. This must be done each time you talk. Release the button in order to listen. When the State Duty Officer answers, announce "This is St. Lucie Nuclear Plant [as applicable (Unit 1, 2)] with an emergency message. I am standing by to transmit the Florida Nuclear Plant Emergency Notification Form when you are ready to copy." Allow the Duty Officer to contact St. Lucie County, Martin County and the Bureau of Radiation Control prior to transmitting the information from the notification form. When the parties are on line, provide the information slowly (e.g., in three word intervals) and deliberately, providing time for the information to be written down. _____
- E. Alternate Notification Methods (in order of priority)

NOTE

Use of the commercial telephone as an alternate notification method requires callback verification from the State Warning Point. Use of ESATCOM as an alternate notification method should include a callback verification number if available (e.g., cellular phone).

1. Alternate 1 – Commercial Phone
 - a. Call the State Warning Point using the phone number in the St. Lucie Plant Emergency Response Directory (ERD). Announce "This is St. Lucie Nuclear Plant [as applicable (Unit 1 / 2)] with an emergency declaration. My callback number is _____."

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NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM
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- | | | | | |
|----|----|----|---|----------------|
| 1. | E. | 1. | (continued) | <u>INITIAL</u> |
| | | | b. Hang up the phone and standby for the callback. When the State Warning Point gives the go-ahead, provide the information from the Florida Nuclear Plant Emergency Notification Form. | _____ |
| | | | c. ¶ ₂ Request callback from the State Warning Point to verify that they notified St. Lucie County, Martin County and the Bureau of Radiation Control. | _____ |
| | | 2. | Alternate 2 - ESATCOM | |

NOTE
Use ESATCOM only if Alternate 1 – commercial phone is not available.

- | | | |
|----|--|-------|
| a. | Hold down the "push-to-talk" button on the handset and wait 3-5 seconds to hear a beep before you start talking. This must be done each time you talk. | _____ |
| b. | Announce "State Warning Point, this is St. Lucie Nuclear Plant [as applicable (Unit 1 / 2)] with an emergency declaration." Then release the "push-to-talk" button in order to listen. | _____ |
| c. | When the State Warning Point acknowledges, announce "State Warning Point, this is St. Lucie Nuclear Plant [as applicable (Unit 1 / 2)] declaring a / an (classification), repeat (classification). I am standing by to transmit Florida Nuclear Plant Emergency Notification Form information when you are ready to copy. When the State Warning Point gives the go-ahead, provide the information from the Florida Nuclear Plant Emergency Notification Form. | _____ |
| d. | Announce "St. Lucie clear" at the end of the conversation. | _____ |

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INITIAL

CAUTION

Notification of the NRC is expected immediately after notification of State and local agencies. The one hour time limit in 10 CFR 50.72 (a)(3) is to ensure timely NRC notification in cases where notification of State and local agencies is delayed or prolonged.

2. §1 NRC Notification

A. Prepare the NRC Reactor Plant Event Notification Worksheet (form similar to Attachment 3) in accordance with Attachment 3A, Directions for Completing the NRC Reactor Plant Event Notification Worksheet.

B. EC approval.

NOTE

1. Primary notification method to the NRC is to use the Emergency Notification System (ENS) phone.
2. If the ENS is out-of-service an alternate notification method is provided in Section D, below.

C. Transmit the form by dialing one of the numbers shown on the phone or in the Emergency Response Directory (ERD).

D. Alternate Notification Method

1. If the ENS is out-of-service, Then use a commercial phone to accomplish the above.

END OF APPENDIX A

/R6

ATTACHMENT 1
FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM
(Page 1 of 1)

On-line Verification: ☐ SWP/DEM ☐ St. Lucie County ☐ Martin County

1. A. ☐ THIS IS A DRILL B. ☐ THIS IS AN EMERGENCY
2. A. Date: ____/____/____ B. Contact Time: ____ C. Reported by: (Name) _____
D. Message Number: ____ E. Reported from: ☐ Control Room ☐ TSC ☐ EOF
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 C. ☐ Site Area Emergency
B. ☐ Alert D. ☐ General Emergency
5. A. ☐ Emergency Declaration: B. ☐ Emergency Termination: Date: ____/____/____ Time: ____
6. Reason for Emergency Declaration:* A. ☐ EAL Number OR B. ☐ Description: _____

7. Additional information or Update: A. ☐ None OR B. ☐ _____

8. Weather Data: A. Wind direction from ____ degrees B. Downwind Sectors Affected: _____, _____, _____
9. Release Status: A. ☐ None (Go to Item 11) B. ☐ Is occurring C. ☐ Has occurred, but stopped
10. Release Significance Category (at the Site Boundary):
A. ☐ Information not available at this time.
B. ☐ Release within normal operating limits (≤ 3.5 E-1 Ci/sec noble gas, ≤ 4.6 E-5 Ci/sec iodine)
C. ☐ Non-Significant Fraction of PAG Range (release is $>$ normal limits and < 500 mrem TEDE and 1000 mrem CDE)
D. ☐ PAG Range (≥ 500 mrem TEDE or ≥ 1000 mrem CDE)

11. Utility Recommended Protective Actions:

A. ☐ No recommended actions at this time.

B. ☐ The utility recommends the following protective actions:

<input type="checkbox"/> Miles	<input type="checkbox"/> No Action Sectors	<input type="checkbox"/> Evacuate Sectors	<input type="checkbox"/> Shelter Sectors
0-2	_____	_____	_____
2-5	_____	_____	_____
5-10	_____	_____	_____

OR

Shelter Zones / Areas: _____

Evacuate Zones / Areas: _____

C. Consider issuance of KI: ☐ Yes ☐ No

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: ☐ N/A OR
A. ☐ Noble Gases ____ Curies per second B. ☐ Iodines ____ Curies per second
C. Airborne: Date Started ____/____/____ Time Started ____ Date Stopped ____/____/____ Time Stopped ____
D. Liquid: Date Started ____/____/____ Time Started ____ Date Stopped ____/____/____ Time Stopped ____
- | Distance | Projected Thyroid Dose (CDE) for 1 Hour | Projected Total Dose (TEDE) for 1 Hour |
|------------------------|---|--|
| 1 Mile (Site Boundary) | E. _____ mrem | F. _____ mrem |
| 2 Miles | G. _____ mrem | H. _____ mrem |
| 5 Miles | I. _____ mrem | J. _____ mrem |
| 10 Miles | K. _____ mrem | L. _____ 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 line 15.

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¶6 ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM
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ITEM ENTRY

On-line Verification - Check the appropriate boxes as the State Warning Point (Florida Division of Emergency Management) requests that St. Lucie County Department of Public Safety and the Martin County Division of Emergency Management get on the line, prior to initiating the notification. All three agencies must be notified through the SWP or alternate means.

1. Check appropriate box for drill or actual emergency as the case may be. During exercises, drills, or tests, each message shall be checked **THIS IS A DRILL.**
- 2A. Enter today's date.
- 2B. Enter the time (using the official time, normally synchronized with ERDADS) when contact is made with the State Warning Point or the start time of the RM PAR Briefing. For initial notification of classification, this shall be within 15 minutes of the "Emergency Declaration" time in item 5.
- 2C. Enter the name of the person making the notification call.
- 2D. Enter the message number beginning with #1 and following sequentially in all facilities (e.g., if the Control Room transmitted two messages the TSC would start with #3).
- 2E. Check the box for the facility from which the notification is being made.
3. Site
Check the box for the appropriate plant site for the emergency declaration (both St Lucie boxes might need to be checked for dual unit events such as approach of a hurricane).
4. Emergency Classification
Check the box corresponding to current accident classification declared.
5. Emergency Declaration or Emergency Termination
Enter the **date and time** when the current emergency classification was declared (A) or (B) when the emergency was terminated.

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6. Reason for Emergency Declaration
Enter the Emergency Action Level (EAL) number (A) (This option is currently not being used at Plant St. Lucie) or (B) enter wording like that found in the EAL information in EPIP-01, Classification Of Emergencies. Wording should be brief yet descriptive enough for the off-site agencies to gain an understanding of the event. It should be clear from the incident description which EAL has necessitated the emergency declaration. Wording should be as non-technical as possible with no acronyms or abbreviations. This information should remain the same throughout update messages, unless there is a classification change.
- *** asterisk and instruction provided at the bottom of form - If Emergency Class escalation is necessary due to rapidly degrading conditions, Then provide the State and County authorities with the initial notification information by transmitting lines 1-6, at a minimum, on the State Notification Form (SNF) and terminate the call by stating that a new notification form will be provided within 15 minutes.
7. Additional Information or Update
Check "None" (A) or (B) Description and enter additional information, if necessary, or reason for update here. For example:
- Protective Action Recommendations (PARs) change
 - An occurrence that would otherwise result in a lower emergency classification, on other unit
 - Weather changes affecting public safety
 - Radiation level changes
 - Loss of off-site power, etc.

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM
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NOTE

If the Class A Model (dose projection model) is being used, a 'State Notification Form Summary Sheet' is available which provides information for items 8-11, 13 and 14. The information is in a format similar to that found on the Florida Nuclear Plant Emergency Notification Form.

8. Weather Data

NOTE

10 meter data should be used.

- A. ¶₁₀ Wind direction can be obtained from ERDADS by depressing the "EPIP" key, on the top row of the keyboard. The Met Tower Indicator Panel in the Unit 1 Control Room is an alternate source. If these two sources are not available, refer to Attachment 1, Meteorological Data, in EPIP-09, Off-Site Dose Calculations.
- B. If the wind direction is greater than 360° the wind direction is determined by subtracting 360° from the indicated number. Wind direction should be rounded to the nearest whole number.
- C. Wind direction is always given as "wind from" (an easterly wind, or wind direction 90°, means that the wind is blowing from east to west).
- D. When determining the sectors affected, the adjacent sectors on both sides of the actual downwind sector are included. Three sectors will typically be listed.
- E. If the wind is located on the edge of a sector (i.e., 11°, 33°, etc.) an additional (fourth) sector should be added.
- F. Enter the wind direction (wind from) in degrees in item "A."

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DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
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8. (continued)

G. Enter the downwind sectors in item "B."

Wind From	Sectors Affected	Wind From	Sectors Affected	Wind From	Sectors Affected
348-11	HJK	123-146	PQR	236-258	CDE
11-33	JKL	146-168	QRA	258-281	DEF
33-56	KLM	168-191	RAB	281-303	EFG
56-78	LMN	191-213	ABC	303-326	FGH
78-101	MNP	213-236	BCD	326-348	GHJ
101-123	NPQ	There is no "O" sector		There is no "I" sector	

9. Release Status

A. If there are no indications of a release of radioactive material, check box "A" and go to item 11.

A release of radioactive material (during any declared emergency) is defined as:

- Any effluent monitor increase of (approximately) 10 times or one decade above pre-transient values

OR

- Health Physics detecting airborne radioactivity levels in excess of 25% derived air concentration (DAC) outside of plant buildings due to failure of equipment associated with the declared emergency.

B. If a release of radioactive material is occurring, even though it may be less than normal operating limits, check box "B."

C. If a release has occurred but stopped, check box "C."

Dose Assessment personnel in the TSC or EOF will have this information. The TSC Chemistry Supervisor, TSC HP Supervisor or EOF HP Manager should be contacted for the data.

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM

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10. Release Significance Category

Do Not Check Any Box in Item 10 If you Checked Box 9 "A" No Release

- A. If a release is occurring or has occurred and dose information is not available at the time of notification, check box "A" and follow up as soon as information becomes available.
- B. Check box "B" if both noble gas and iodine release rates are less than or equal to the following:

Noble Gas release $\leq 3.5 \text{ E}+5 \text{ } \mu\text{Ci/sec. (3.5 E-1 Ci/sec)}$
Iodine release $\leq 4.6 \text{ E}+1 \text{ } \mu\text{Ci/sec (4.6 E-5 Ci/sec)}$
- C. Check box "C" if either noble gas or iodine release rates exceed the values in "B" (above) but forecasted 1 mile doses are less than either 500 mrem TEDE or 1000 mrem Thyroid CDE. These doses are less than the state's Protective Action Guide (PAG) levels.
- D. Check box "D" if forecasted 1 mile doses are greater than or equal to either 500 mrem TEDE or 1000 mrem Thyroid CDE. These PAG levels require state and county action.

11. Utility Recommended Protective Actions

- A. If there are no Protective Action Recommendations (PARs), check Box "A."
- B. If PARs are necessary, check Box "B". Two formats are provided to record PARs. Use the "sector" format and determine appropriate PARs using the guidance in Attachment 2 to this procedure. Copy the PARs into item 11 "C." Indicate PARs using only the words NONE, ALL, ALL REMAINING or by listing the letters of the sectors affected. Protective Action Recommendations shall be approved by the Emergency Coordinator (EC) or the Recovery Manager (RM). The "zone" format is for Crystal River Unit 3 use only.
- C. Check the "Yes" box (to consider issuance of potassium iodide (KI) only if:
 - (1) A General Emergency has been declared
 - AND
 - (2) A release of radioactive material is occurring.

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DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
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12. Plant Conditions

Answer the three questions "Yes" or "No" by checking the appropriate box.

- A. Is the reactor shut down?
- B. Is the core adequately cooled?
- C. Is the containment intact?

Answer the question regarding the condition of the core as either stable or degrading.

13. Weather Data

NOTE

10 meter data should be used.

- A. ¶₁₀ Temperature, wind speed and wind direction can be obtained from ERDADS by depressing the "EPIP" key, on the top row of the keyboard. The Met Tower Indicator Panel in the Unit 1 Control Room is an alternate source. If these two sources are not available, refer to Attachment 7, Meteorological Data, in EPIP-09, Off-site Dose Calculations.
- B. Enter wind speed in Miles Per Hour (MPH) in item "A".
- C. Stability Class - Enter the stability class as determined by using the figure below. The figure shows the relationship between the Delta T displayed by ERDADS and the stability class.

If Delta-T is	Then Stability Class is
Less than or equal to -1.7	A
-1.6 to -1.5	B
-1.4	C
-1.3 to -0.5	D
-0.4 to +1.4	E
+1.5 to +3.6	F
Greater than +3.6	G

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14. Additional Release Information

This section requires that a release be in progress and completed results of dose assessment be available. Check the "N/A" box if no release is occurring and/or if dose information is not available. Otherwise, provide all information that applies.

- A. Enter the noble gas release rate in curies per second.
- B. Enter the iodine release rate in curies per second.
- C. For an airborne release, enter the date and time started and when terminated, the date and stopped.
- D. For a liquid release, enter the date and time started and when terminated, the date and time stopped.

Projected Dose Information - Enter the projected Thyroid Dose (CDE) in mrem for 1 hour (EPIP-09, Manual Dose Calculation Worksheet, Line 5) and the projected Total Dose (TEDE) in mrem for 1 hour (EPIP-09, Manual Dose Calculation Worksheet, Line 16) for the site boundary 2, 5 and 10 miles.

15. Message Received By

Enter the name of the State Warning Point Duty Officer or the individual that receives the notification. Enter the time at the State Warning Point (request it from the Duty Officer) and indicate the date the call is completed.

END OF ATTACHMENT 1A

ATTACHMENT 3
18 NRC REACTOR PLANT EVENT NOTIFICATION WORKSHEET
 (Page 1 of 2)

NRC FORM 361 (12-2000)		REACTOR PLANT EVENT NOTIFICATION WORKSHEET				U.S. NUCLEAR REGULATORY COMMISSION OPERATIONS CENTER	
				EN #			
NOTIFICATION TIME	FACILITY OR ORGANIZATION	UNIT	NAME OF CALLER		CALL BACK #		
EVENT TIME & ZONE	EVENT DATE	POWERMODE BEFORE		POWERMODE AFTER			
EVENT CLASSIFICATIONS		1-Hr. Non-Emergency 10 CFR 50.72(b)(1)		(v)(A) Safe S/D Capability AINA			
GENERAL EMERGENCY	GEN/AAEC	TS Deviation ADEV		(v)(B) RHR Capability AINB			
SITE AREA EMERGENCY	SIT/AAEC	4-Hr. Non-Emergency 10 CFR 50.72(b)(2)		(v)(C) Control of Rad Release AINC			
ALERT	ALE/AAEC	(i) TS Required S/D ASHU		(v)(D) Accident Mitigation AIND			
UNUSUAL EVENT	UNU/AAEC	(iv)(A) ECCS Discharge to RCS ACCS		(xii) Offsite Medical AMED			
50.72 NON-EMERGENCY (see next columns)		(iv)(B) RPS Actuation (scram) ARPS		(xiii) Loss Comm/Asmt/Resp ACOM			
PHYSICAL SECURITY (73.71)	DDDD	(xi) Offsite Notification APRE		60-Day Optional 10 CFR 50.73(a)(1)			
MATERIAL/EXPOSURE	B???	8-Hr. Non-Emergency 10 CFR 50.72(b)(3)		Invalid Specified System Actuation AINA			
FITNESS FOR DUTY	HFIT	(ii)(A) Degraded Condition ADEG		Other Unspecified Requirement (Identify)			
OTHER UNSPECIFIED REQMT. (see last column)		(ii)(B) Unanalyzed Condition AUNA					
INFORMATION ONLY	NNF	(iv)(A) Specified System Actuation AESF					
DESCRIPTION							
Include: Systems affected, actuations and their initiating signals, causes, effect of event on plant, actions taken or planned, etc. (Continue on back)							
NOTIFICATIONS	YES	NO	WILL BE	ANYTHING UNUSUAL OR NOT UNDERSTOOD?			
NRC RESIDENT				<input type="checkbox"/> YES (Explain above) <input type="checkbox"/> NO			
STATE(s)				DID ALL SYSTEMS FUNCTION AS REQUIRED?			
LOCAL				<input type="checkbox"/> YES <input type="checkbox"/> NO (Explain above)			
OTHER GOV AGENCIES				MODE OF OPERATION UNTIL CORRECTED:		ESTIMATED RESTART DATE:	ADDITIONAL INFO ON BACK
MEDIA/PRESS RELEASE							<input type="checkbox"/> YES <input type="checkbox"/> NO

ATTACHMENT 3
18 NRC REACTOR PLANT EVENT NOTIFICATION WORKSHEET
 (Page 2 of 2)

RADIOLOGICAL RELEASES: CHECK OR FILL IN APPLICABLE ITEMS (specific details/explanations should be covered in event description)						
<input type="checkbox"/> LIQUID RELEASE	<input type="checkbox"/> GASEOUS RELEASE	<input type="checkbox"/> UNPLANNED RELEASE	<input type="checkbox"/> PLANNED RELEASE	<input type="checkbox"/> ONGOING	<input type="checkbox"/> TERMINATED	
<input type="checkbox"/> MONITORED	<input type="checkbox"/> UNMONITORED	<input type="checkbox"/> OFFSITE RELEASE	<input type="checkbox"/> T.S. EXCEEDED	<input type="checkbox"/> RM ALARMS	<input type="checkbox"/> AREAS EVACUATED	
<input type="checkbox"/> PERSONNEL EXPOSED OR CONTAMINATED		<input type="checkbox"/> OFFSITE PROTECTIVE ACTIONS RECOMMENDED			*State release path in description	
	Release Rate (Ci/sec)	% T.S. LIMIT	HOO GUIDE	Total Activity (Ci)	% T.S. LIMIT	HOO GUIDE
Noble Gas			0.1 Ci/sec			1000 Ci
Iodine			10 uCi/sec			0.01 Ci
Particulate			1 uCi/sec			1 mCi
Liquid (excluding tritium and dissolved noble gases)			10 uCi/min			0.1 Ci
Liquid (tritium)			0.2 Ci/min			5 Ci
Total Activity						
	PLANT STACK	CONDENSER/AIR EJECTOR	MAIN STEAM LINE	SG BLOWDOWN	OTHER	
RAD MONITOR READINGS						
ALARM SETPOINTS						
% T.S. LIMIT (if applicable)						
RCS OR SG TUBE LEAKS: CHECK OR FILL IN APPLICABLE ITEMS: (specific details/explanations should be covered in event description)						
LOCATION OF THE LEAK (e.g., SG #, valve, pipe, etc.)						
LEAK RATE	UNITS: gpm/gpd	T.S. LIMITS	SUDDEN OR LONG-TERM DEVELOPMENT			
LEAK START DATE	TIME	COOLANT ACTIVITY AND UNITS:	PRIMARY	SECONDARY		
LIST OF SAFETY RELATED EQUIPMENT NOT OPERATIONAL						
EVENT DESCRIPTION (Continued from front)						

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ATTACHMENT 3A
DIRECTIONS FOR COMPLETING THE NRC REACTOR PLANT
EVENT NOTIFICATION WORKSHEET
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- A.** Contact information - to be completed following contact
1. Name of the person contacting the NRC or other designated FPL contact.
 2. NRC Contacts Name - will be provided upon contact. Also obtain the event number and notification time as received from the HOO should be recorded on the top of the worksheet.
- B.** Reactor Plant Event Notification Worksheet, Page 1

NOTE
 The "EN #" is provided by the NRC.

1. Notification Time - enter the time contact is made.
2. Unit - enter the appropriate unit number: Enter "0" for a classification common to both units.
3. Callers Name - enter the name of the person making the call.
4. Call back # - enter the number of the ENS phone that you are calling from and the commercial phone number at which you can be reached.
5. Event time and Zone - enter the military time, the zone will be "EST" for Eastern Standard Time or "EDT" for Eastern Daylight-savings Time.
6. Event Date - enter the date the event is occurring.
7. Power / Mode Before & Power / Mode After - enter the power in percent and the mode number (1-6) before and after the event.

NOTE
 Abbreviations / acronyms (e.g., UNU / AAEC, SIT / AAEC, etc.) are for NRC use only.

8. Event Classifications - check one of the four blocks for General Emergency, Site Area Emergency, Alert, or Notification of Unusual Event.

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ATTACHMENT 3A
DIRECTIONS FOR COMPLETING THE NRC REACTOR PLANT
EVENT NOTIFICATION WORKSHEET
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B. (continued)

NOTE

No other blocks in the upper half of the form are required.

9. Description - provide a written description of the event.

NOTE

Check the blocks in the lower portion of the form based on current conditions.

10. Mode of operation until corrected - provided if known.

11. Estimate for restart date - enter "unknown".

12. Additional info on Page 2 - enter yes or no.

C. Reactor Plant Event Notification Worksheet, Page 2

1. Fill in as much of the information on the form as is immediately available - do not create undue delay in making the notification. This information can be gained once the open line of communication is established.

D. Approval

1. Information entered on the worksheet shall be reviewed and approved by the EC or RM (if used in the EOF), prior to transmission.

2. The EC / RM may initial on the worksheet to indicate approval. There is no formal sign-off location on the worksheet.

END OF ATTACHMENT 3A

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5.3 Alert Declaration Checklist

TIME / INITIAL

Date: ____/____/____

CAUTION

Notification to the State Warning Point (SWP) shall occur within 15 minutes of declaration of the emergency classification.

NOTE

- Steps should be performed in the order presented. When conditions warrant, steps may be performed out of sequence.
- PA announcements are provided as a guideline. Actual announcements may vary from the text provided.
- For assistance with exposure control, refer to:
 - Attachment 4, Field Operator Re-entry Guidelines
 - Attachment 5, Exposure Limits for Emergency Response Personnel
- Not Applicable (N/A) may be used for tasks / steps previously accomplished / satisfied.

1. Determine the following:

- | | | |
|----|---------------------------------------|-------|
| A. | Shift Technical Advisor (STA) present | Y / N |
| B. | Duty Call Supervisor (DCS) present | Y / N |
| C. | Shift Communicator present | Y / N |
| D. | Wind direction (from) | ____° |

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5.3 Alert Declaration Checklist (continued)

TIME / INITIAL

1. (continued)

NOTE

During any declared emergency, a release is occurring if one of the following is true:

- Any effluent monitor increase of (approximately) 10 times or one decade above pre-transient values.

OR

- Health Physics detecting airborne radioactivity levels in excess of 25 percent Derived Air Concentration (DAC) outside of plant buildings due to failure of equipment associated with the declared emergency.

- | | | | |
|----|--|-------|---------|
| E. | Release in progress | Y / N | |
| F. | E-Plan Alarm sounded and Emergency Response Facilities (ERFs) activated | Y / N | ___/___ |
| 2. | Mobilize emergency team personnel (i.e., Fire Team, First Aid Team) as required using Gai-tronics and boost function. | | ___/___ |
| 3. | The SM shall declare the emergency to the Control Room staff and formally announce that he / she is the Emergency Coordinator. | | ___/___ |
| 4. | ¶ ₂ If a release of radioactive material is in progress, <u>Then</u> review personnel access with Health Physics personnel and notify Security personnel with any special instructions. | | ___/___ |
| 5. | ¶ ₁₃ Sound the Emergency Plan (E-Plan) Activation Alarm. | | ___/___ |

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5.3 Alert Declaration Checklist (continued)

TIME / INITIAL

- 6.** Notify plant personnel using Gai-tronics and boost function as follows:

"Attention all plant personnel, Unit 1 / 2 has declared an ALERT. All emergency response personnel report at once to your assigned emergency response facility."

"All non-emergency response personnel report to your normal work location or contact your supervisor. Please limit radio and phone use and listen for further instructions and further information."

Repeat the announcement.

___/___

- 7.** Notify the Shift Technical Advisor, Duty Call Supervisor and the Shift Communicator, as appropriate to report to the Control Room using Gai-tronics and boost function. (N/A if already performed)

"Shift Technical Advisor report to the Unit 1 / 2 Control Room."

___/___

"Duty Call Supervisor report to the Unit 1 / 2 Control Room."

___/___

"Shift Communicator report to the Unit 1 / 2 Control Room."

___/___

- 8.** Initiate the call-out process in accordance with EPIP-03, Emergency Response Organization Notification / Staff Augmentation (this may be accomplished by the DCS).

___/___

- 9.** ¶₆ If a release of radioactive material has occurred or is in progress, Then notify Chemistry to promptly implement EPIP-09, Off-site Dose Calculations, and report the results to the Emergency Coordinator (EC).

___/___

- 10.** If a Chemist is unavailable, Then call-out a Chemist (this may be accomplished by the DCS).

___/___

- 11.** If evacuation of an area is necessary (refer to Attachment 2, Criteria for Evacuation), Then initiate a local evacuation.

___/___

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5.3 Alert Declaration Checklist (continued)

TIME / INITIAL

- 12.** ¶₁₅ Complete required notifications in accordance with Appendix A, Notifications from the Affected Control Room, in EPIP-08, Off-site Notifications and Protective Action Recommendations. The DCS may be utilized as a phonetalker.

State Warning Point

___/___

NRC

___/___

- 13.** Ensure notification of the following: (this may be accomplished by the DCS)

Plant Management

___/___

Security

___/___

Nuclear Division Duty Officer (NDDO)

___/___

- 14.** Initiate the Operations Department Accountability Aid for both Unit 1 and Unit 2 and provide this list to the TSC when requested. (this may be accomplished by the DCS)

___/___

- 15.** ¶₉ Ensure Operations field personnel return to their assigned Control Room and obtain emergency Electronic Personal Dosimetry (EPD) from the HP Emergency Kit.

___/___

- 16.** Utilize Attachment 3, Turnover Guidelines when relinquishing duties to the oncoming EC.

___/___

NOTE

¶₂ New notification forms shall be completed for all updates.

- 17.** ¶₁₅ If State / Local notification has not been completed in the last 60 minutes, Then provide a routine update utilizing a new notification form. The DCS may be utilized as a phonetalker. (Repeat as necessary)

___/___

___/___

___/___

___/___

___/___

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5.3 Alert Declaration Checklist (continued)

TIME / INITIAL

- 18.** If the event can be terminated, Then complete the notification forms (State, NRC) and notify the following: (this may be accomplished by the DCS)

State Warning Point (SWP)

___/___

Plant Management

___/___

Security

___/___

NDDO

___/___

NRC

___/___

- 19.** ALERT Declaration Checklist complete (emergency upgraded or event terminated).

___/___

END OF SECTION 5.3

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5.3 Alert Declaration Checklist (continued)

TIME / INITIAL

- 18.** If the event can be terminated, Then complete the notification forms (State, NRC) and notify the following: (this may be accomplished by the DCS)

State Warning Point (SWP)

___/___

Plant Management

___/___

Security

___/___

NDDO

___/___

NRC

___/___

- 19.** ALERT Declaration Checklist complete (emergency upgraded or event terminated).

___/___

END OF SECTION 5.3

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APPENDIX A
NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM
(Page 1 of 4)

INITIAL

CAUTION

- §₁ Notification of State and local agencies shall be made as soon as practicable within 15 minutes of declaration of an Emergency Class.
- ¶₃ A new Florida Nuclear Plant Emergency Notification Form shall be completed for all updates.

NOTE

- ¶₉ 1. Completion of this checklist requires the following Attachments (all from EPIP-08):
- Attachment 1 – Florida Nuclear Plant Emergency Notification Form
- Attachment 1A – Directions for Completing the Florida Nuclear Plant Emergency Notification Form
- Attachment 2 – Determination of Protective Action Recommendations (PARs)
- Attachment 3 – NRC Reactor Plant Event Notification Worksheet
- Attachment 3A – Directions for Completing the NRC Reactor Plant Event Notification Worksheet
2. Checklist Part 1 is for State Warning Point notification.
3. Checklist Part 2 is for NRC notification.

1. State Warning Point Notification
- A. Prepare the Florida Nuclear Plant Emergency Notification Form (form similar to Attachment 1) in accordance with Attachment 1A, Directions for Completing the Florida Nuclear Plant Emergency Notification Form.
- B. Emergency Coordinator (EC) approval: _____

REVISION NO.: 6A	PROCEDURE TITLE: OFF-SITE NOTIFICATIONS AND PROTECTIVE ACTION RECOMMENDATIONS ST. LUCIE PLANT	PAGE: 19 of 49
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APPENDIX A
NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM
(Page 2 of 4)

1. (continued)

INITIAL

NOTE

1. Primary notification method to the State Warning Point (SWP) is to use the Hot Ring Down (HRD) phone.
2. If the HRD is out-of-service, alternate notification methods are provided in Section E, below.

- C. Using the State HOT RING DOWN (HRD) Phone, dial 100. _____
- D. Hold down the button on the handset while talking. This must be done each time you talk. Release the button in order to listen. When the State Duty Officer answers, announce "This is St. Lucie Nuclear Plant [as applicable (Unit 1, 2)] with an emergency message. I am standing by to transmit the Florida Nuclear Plant Emergency Notification Form when you are ready to copy." Allow the Duty Officer to contact St. Lucie County, Martin County and the Bureau of Radiation Control prior to transmitting the information from the notification form. When the parties are on line, provide the information slowly (e.g., in three word intervals) and deliberately, providing time for the information to be written down. _____
- E. Alternate Notification Methods (in order of priority)

NOTE

Use of the commercial telephone as an alternate notification method requires callback verification from the State Warning Point. Use of ESATCOM as an alternate notification method should include a callback verification number if available (e.g., cellular phone).

1. Alternate 1 – Commercial Phone
 - a. Call the State Warning Point using the phone number in the St. Lucie Plant Emergency Response Directory (ERD). Announce "This is St. Lucie Nuclear Plant [as applicable (Unit 1 / 2)] with an emergency declaration. My callback number is _____."

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APPENDIX A
NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM
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- | | | | | |
|----|----|----|---|----------------|
| 1. | E. | 1. | (continued) | <u>INITIAL</u> |
| | | | b. Hang up the phone and standby for the callback. When the State Warning Point gives the go-ahead, provide the information from the Florida Nuclear Plant Emergency Notification Form. | _____ |
| | | | c. $\frac{1}{2}$ Request callback from the State Warning Point to verify that they notified St. Lucie County, Martin County and the Bureau of Radiation Control. | _____ |
| | | 2. | Alternate 2 - ESATCOM | |

NOTE Use ESATCOM only if Alternate 1 – commercial phone is not available.

- | | | |
|----|--|-------|
| a. | Hold down the "push-to-talk" button on the handset and wait 3-5 seconds to hear a beep before you start talking. This must be done each time you talk. | _____ |
| b. | Announce "State Warning Point, this is St. Lucie Nuclear Plant [as applicable (Unit 1 / 2)] with an emergency declaration." Then release the "push-to-talk" button in order to listen. | _____ |
| c. | When the State Warning Point acknowledges, announce "State Warning Point, this is St. Lucie Nuclear Plant [as applicable (Unit 1 / 2)] declaring a / an (<u>classification</u>), repeat (<u>classification</u>). I am standing by to transmit Florida Nuclear Plant Emergency Notification Form information when you are ready to copy. When the State Warning Point gives the go-ahead, provide the information from the Florida Nuclear Plant Emergency Notification Form. | _____ |
| d. | Announce "St. Lucie clear" at the end of the conversation. | _____ |

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APPENDIX A
NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM
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INITIAL

CAUTION

Notification of the NRC is expected immediately after notification of State and local agencies. The one hour time limit in 10 CFR 50.72 (a)(3) is to ensure timely NRC notification in cases where notification of State and local agencies is delayed or prolonged.

2. §1 NRC Notification

- A. Prepare the NRC Reactor Plant Event Notification Worksheet (form similar to Attachment 3) in accordance with Attachment 3A, Directions for Completing the NRC Reactor Plant Event Notification Worksheet. _____
- B. EC approval. _____

NOTE

- 1. Primary notification method to the NRC is to use the Emergency Notification System (ENS) phone.
- 2. If the ENS is out-of-service an alternate notification method is provided in Section D, below.

- C. Transmit the form by dialing one of the numbers shown on the phone or in the Emergency Response Directory (ERD). _____
- D. Alternate Notification Method
 - 1. If the ENS is out-of-service, Then use a commercial phone to accomplish the above. _____

END OF APPENDIX A

/R6

ATTACHMENT 1
FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM
(Page 1 of 1)

On-line Verification: ☐ SWP/DEM ☐ St. Lucie County ☐ Martin County

1. A. ☐ THIS IS A DRILL B. ☐ THIS IS AN EMERGENCY
2. A. Date: ____/____/____ B. Contact Time: ____ C. Reported by: (Name) _____
D. Message Number: ____ E. Reported from: ☐ Control Room ☐ TSC ☐ EOF
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 C. ☐ Site Area Emergency
B. ☐ Alert D. ☐ General Emergency
5. A. ☐ Emergency Declaration: B. ☐ Emergency Termination: Date: ____/____/____ Time: ____
6. Reason for Emergency Declaration: A. ☐ EAL Number OR B. ☐ Description: _____

7. Additional Information or Update: A. ☐ None OR B. ☐ _____

8. Weather Data: A. Wind direction from: ____ degrees B. Downwind Sectors Affected: _____
9. Release Status: A. ☐ None (Go to Item 11) B. ☐ Is occurring C. ☐ Has occurred, but stopped
10. Release Significance Category (at the Site Boundary):
A. ☐ Information not available at this time.
B. ☐ Release within normal operating limits (≤ 3.5 E-1 Ci/sec noble gas, ≤ 4.6 E-5 Ci/sec iodine)
C. ☐ Non-Significant Fraction of PAG Range (release is $>$ normal limits and < 500 mrem TEDE and 1000 mrem CDE)
D. ☐ PAG Range (≥ 500 mrem TEDE or ≥ 1000 mrem CDE)

11. Utility Recommended Protective Actions:

A. ☐ No recommended actions at this time.

B. ☐ The utility recommends the following protective actions:

<input type="checkbox"/> Miles	No Action Sectors	Evacuate Sectors	Shelter Sectors
0-2	_____	_____	_____
2-5	_____	_____	_____
5-10	_____	_____	_____

OR

Shelter Zones / Areas: _____

Evacuate Zones / Areas: _____

C. Consider Issuance of KI: ☐ Yes ☐ No

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: ☐ N/A OR
A. ☐ Noble Gases ____ Curies per second B. ☐ Iodines ____ Curies per second
C. Airborne: Date Started ____/____/____ Time Started ____ Date Stopped ____/____/____ Time Stopped ____
D. Liquid: Date Started ____/____/____ Time Started ____ Date Stopped ____/____/____ Time Stopped ____
- | Distance | Projected Thyroid Dose (CDE) for 1 Hour | Projected Total Dose (TEDE) for 1 Hour |
|------------------------|---|--|
| 1 Mile (Site Boundary) | E. _____ mrem | F. _____ mrem |
| 2 Miles | G. _____ mrem | H. _____ mrem |
| 5 Miles | I. _____ mrem | J. _____ mrem |
| 10 Miles | K. _____ mrem | L. _____ 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 line 15.

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ATTACHMENT 1A
**DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM**
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ITEM ENTRY

On-line Verification - Check the appropriate boxes as the State Warning Point (Florida Division of Emergency Management) requests that St. Lucie County Department of Public Safety and the Martin County Division of Emergency Management get on the line, prior to initiating the notification. All three agencies must be notified through the SWP or alternate means.

1. Check appropriate box for drill or actual emergency as the case may be. During exercises, drills, or tests, each message shall be checked **THIS IS A DRILL.**
- 2A. Enter today's date.
- 2B. Enter the time (using the official time, normally synchronized with ERDADS) when contact is made with the State Warning Point or the start time of the RM PAR Briefing. For initial notification of classification, this shall be within 15 minutes of the "Emergency Declaration" time in item 5.
- 2C. Enter the name of the person making the notification call.
- 2D. Enter the message number beginning with #1 and following sequentially in all facilities (e.g., if the Control Room transmitted two messages the TSC would start with #3).
- 2E. Check the box for the facility from which the notification is being made.
3. Site
Check the box for the appropriate plant site for the emergency declaration (both St Lucie boxes might need to be checked for dual unit events such as approach of a hurricane).
4. Emergency Classification
Check the box corresponding to current accident classification declared.
5. Emergency Declaration or Emergency Termination
Enter the **date** and **time** when the current emergency classification was declared (A) or (B) when the emergency was terminated.

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM

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6. Reason for Emergency Declaration
Enter the Emergency Action Level (EAL) number (A) (This option is currently not being used at Plant St. Lucie) or (B) enter wording like that found in the EAL information in EPIP-01, Classification Of Emergencies. Wording should be brief yet descriptive enough for the off-site agencies to gain an understanding of the event. It should be clear from the incident description which EAL has necessitated the emergency declaration. Wording should be as non-technical as possible with no acronyms or abbreviations. This information should remain the same throughout update messages, unless there is a classification change.
- *** asterisk and instruction provided at the bottom of form - If Emergency Class escalation is necessary due to rapidly degrading conditions, Then provide the State and County authorities with the initial notification information by transmitting lines 1-6, at a minimum, on the State Notification Form (SNF) and terminate the call by stating that a new notification form will be provided within 15 minutes.
7. Additional Information or Update
Check "None" (A) or (B) Description and enter additional information, if necessary, or reason for update here. For example:
- Protective Action Recommendations (PARs) change
 - An occurrence that would otherwise result in a lower emergency classification, on other unit
 - Weather changes affecting public safety
 - Radiation level changes
 - Loss of off-site power, etc.

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM
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NOTE

If the Class A Model (dose projection model) is being used, a 'State Notification Form Summary Sheet' is available which provides information for items 8-11, 13 and 14. The information is in a format similar to that found on the Florida Nuclear Plant Emergency Notification Form.

8. Weather Data

NOTE

10 meter data should be used.

- A. ¶₁₀ Wind direction can be obtained from ERDADS by depressing the "EPIP" key, on the top row of the keyboard. The Met Tower Indicator Panel in the Unit 1 Control Room is an alternate source. If these two sources are not available, refer to Attachment 1, Meteorological Data, in EPIP-09, Off-Site Dose Calculations.
- B. If the wind direction is greater than 360° the wind direction is determined by subtracting 360° from the indicated number. Wind direction should be rounded to the nearest whole number.
- C. Wind direction is always given as "wind from" (an easterly wind, or wind direction 90°, means that the wind is blowing from east to west).
- D. When determining the sectors affected, the adjacent sectors on both sides of the actual downwind sector are included. Three sectors will typically be listed.
- E. If the wind is located on the edge of a sector (i.e., 11°, 33°, etc.) an additional (fourth) sector should be added.
- F. Enter the wind direction (wind from) in degrees in item "A."

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM
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8. (continued)

G. Enter the downwind sectors in item "B."

Wind From	Sectors Affected	Wind From	Sectors Affected	Wind From	Sectors Affected
348-11	HJK	123-146	PQR	236-258	CDE
11-33	JKL	146-168	QRA	258-281	DEF
33-56	KLM	168-191	RAB	281-303	EFG
56-78	LMN	191-213	ABC	303-326	FGH
78-101	MNP	213-236	BCD	326-348	GHJ
101-123	NPQ	There is no "O" sector		There is no "I" sector	

9. Release Status

A. If there are no indications of a release of radioactive material, check box "A" and go to item 11.

A release of radioactive material (during any declared emergency) is defined as:

- Any effluent monitor increase of (approximately) 10 times or one decade above pre-transient values

OR

- Health Physics detecting airborne radioactivity levels in excess of 25% derived air concentration (DAC) outside of plant buildings due to failure of equipment associated with the declared emergency.

B. If a release of radioactive material is occurring, even though it may be less than normal operating limits, check box "B."

C. If a release has occurred but stopped, check box "C."

Dose Assessment personnel in the TSC or EOF will have this information. The TSC Chemistry Supervisor, TSC HP Supervisor or EOF HP Manager should be contacted for the data.

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM

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10. Release Significance Category

Do Not Check Any Box in Item 10 if you Checked Box 9 "A" No Release

- A. If a release is occurring or has occurred and dose information is not available at the time of notification, check box "A" and follow up as soon as information becomes available.
- B. Check box "B" if both noble gas and iodine release rates are less than or equal to the following:

Noble Gas release $\leq 3.5 \text{ E}+5 \text{ } \mu\text{Ci/sec}$ ($3.5 \text{ E}-1 \text{ Ci/sec}$)
Iodine release $\leq 4.6 \text{ E}+1 \text{ } \mu\text{Ci/sec}$ ($4.6 \text{ E}-5 \text{ Ci/sec}$)

- C. Check box "C" if either noble gas or iodine release rates exceed the values in "B" (above) but forecasted 1 mile doses are less than either 500 mrem TEDE or 1000 mrem Thyroid CDE. These doses are less than the state's Protective Action Guide (PAG) levels.
- D. Check box "D" if forecasted 1 mile doses are greater than or equal to either 500 mrem TEDE or 1000 mrem Thyroid CDE. These PAG levels require state and county action.

11. Utility Recommended Protective Actions

- A. If there are no Protective Action Recommendations (PARs), check Box "A."
- B. If PARs are necessary, check Box "B". Two formats are provided to record PARs. Use the "sector" format and determine appropriate PARs using the guidance in Attachment 2 to this procedure. Copy the PARs into item 11 "C." Indicate PARs using only the words NONE, ALL, ALL REMAINING or by listing the letters of the sectors affected. Protective Action Recommendations shall be approved by the Emergency Coordinator (EC) or the Recovery Manager (RM). The "zone" format is for Crystal River Unit 3 use only.
- C. Check the "Yes" box (to consider issuance of potassium iodide (KI) only if:
 - (1) A General Emergency has been declared
 - AND
 - (2) A release of radioactive material is occurring.

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM
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12. Plant Conditions

Answer the three questions "Yes" or "No" by checking the appropriate box.

- A. Is the reactor shut down?
- B. Is the core adequately cooled?
- C. Is the containment intact?

Answer the question regarding the condition of the core as either stable or degrading.

13. Weather Data

NOTE

10 meter data should be used.

- A. T_{10} Temperature, wind speed and wind direction can be obtained from ERDADS by depressing the "EPIP" key, on the top row of the keyboard. The Met Tower Indicator Panel in the Unit 1 Control Room is an alternate source. If these two sources are not available, refer to Attachment 7, Meteorological Data, in EPIP-09, Off-site Dose Calculations.
- B. Enter wind speed in Miles Per Hour (MPH) in item "A".
- C. Stability Class - Enter the stability class as determined by using the figure below. The figure shows the relationship between the Delta T displayed by ERDADS and the stability class.

If Delta-T is	Then Stability Class is
Less than or equal to -1.7	A
-1.6 to -1.5	B
-1.4	C
-1.3 to -0.5	D
-0.4 to +1.4	E
+1.5 to +3.6	F
Greater than +3.6	G

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM

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14. Additional Release Information

This section requires that a release be in progress and completed results of dose assessment be available. Check the "N/A" box if no release is occurring and/or if dose information is not available. Otherwise, provide all information that applies.

- A. Enter the noble gas release rate in curies per second.
- B. Enter the iodine release rate in curies per second.
- C. For an airborne release, enter the date and time started and when terminated, the date and stopped.
- D. For a liquid release, enter the date and time started and when terminated, the date and time stopped.

Projected Dose Information - Enter the projected Thyroid Dose (CDE) in mrem for 1 hour (EPIP-09, Manual Dose Calculation Worksheet, Line 5) and the projected Total Dose (TEDE) in mrem for 1 hour (EPIP-09, Manual Dose Calculation Worksheet, Line 16) for the site boundary 2, 5 and 10 miles.

15. Message Received By

Enter the name of the State Warning Point Duty Officer or the individual that receives the notification. Enter the time at the State Warning Point (request it from the Duty Officer) and indicate the date the call is completed.

END OF ATTACHMENT 1A

ATTACHMENT 3
NRC REACTOR PLANT EVENT NOTIFICATION WORKSHEET
 (Page 1 of 2)

NRC FORM 361 (12-2000)		REACTOR PLANT EVENT NOTIFICATION WORKSHEET				U.S. NUCLEAR REGULATORY COMMISSION OPERATIONS CENTER	
				EN #			
NOTIFICATION TIME	FACILITY OR ORGANIZATION	UNIT	NAME OF CALLER			CALL BACK #	
EVENT TIME & ZONE	EVENT DATE	POWERMODE BEFORE			POWERMODE AFTER		
EVENT CLASSIFICATIONS		1-Hr. Non-Emergency 10 CFR 50.72(b)(1)		(v)(A) Safe S/D Capability AINA			
GENERAL EMERGENCY	GEN/AAEC	TS Deviation ADEV		(v)(B) RHR Capability AINB			
SITE AREA EMERGENCY	SIT/AAEC	4-Hr. Non-Emergency 10 CFR 50.72(b)(2)		(v)(C) Control of Rad Release AINC			
ALERT	ALE/AAEC	(i) TS Required S/D ASHU		(v)(D) Accident Mitigation AIND			
UNUSUAL EVENT	UNU/AAEC	(iv)(A) ECCS Discharge to RCS ACCS		(xii) Offsite Medical AMED			
50.72 NON-EMERGENCY (see next columns)		(iv)(B) RPS Actuation (scram) ARPS		(xii) Loss Comm/Asmt/Resp ACOM			
PHYSICAL SECURITY (73.71)	DDDD	(xi) Offsite Notification APRE		60-Day Optional 10 CFR 50.73(a)(1)			
MATERIAL/EXPOSURE	B???	8-Hr. Non-Emergency 10 CFR 50.72(b)(3)		Invalid Specified System Actuation AINA			
FITNESS FOR DUTY	HFIT	(ii)(A) Degraded Condition ADEG		Other Unspecified Requirement (Identify)			
OTHER UNSPECIFIED REQMT. (see last column)		(ii)(B) Unanalyzed Condition AJNA					
INFORMATION ONLY	NNF	(iv)(A) Specified System Actuation AESF					
DESCRIPTION							
Include: Systems affected, actuations and their initiating signals, causes, effect of event on plant, actions taken or planned, etc. (Continue on back)							
NOTIFICATIONS	YES	NO	WILL BE	ANYTHING UNUSUAL OR NOT UNDERSTOOD? <input type="checkbox"/> YES (Explain above) <input type="checkbox"/> NO			
NRC RESIDENT							
STATE(s)				DID ALL SYSTEMS FUNCTION AS REQUIRED? <input type="checkbox"/> YES <input type="checkbox"/> NO (Explain above)			
LOCAL							
OTHER GOV AGENCIES				MODE OF OPERATION UNTIL CORRECTED:		ESTIMATED RESTART DATE:	ADDITIONAL INFO ON BACK
MEDIA/PRESS RELEASE							<input type="checkbox"/> YES <input type="checkbox"/> NO

ATTACHMENT 3
118 NRC REACTOR PLANT EVENT NOTIFICATION WORKSHEET
 (Page 2 of 2)

RADIOLOGICAL RELEASES: CHECK OR FILL IN APPLICABLE ITEMS (specific details/explanations should be covered in event description)						
<input type="checkbox"/> LIQUID RELEASE	<input type="checkbox"/> GASEOUS RELEASE	<input type="checkbox"/> UNPLANNED RELEASE	<input type="checkbox"/> PLANNED RELEASE	<input type="checkbox"/> ONGOING	<input type="checkbox"/> TERMINATED	
<input type="checkbox"/> MONITORED	<input type="checkbox"/> UNMONITORED	<input type="checkbox"/> OFFSITE RELEASE	<input type="checkbox"/> T.S. EXCEEDED	<input type="checkbox"/> RM ALARMS	<input type="checkbox"/> AREAS EVACUATED	
<input type="checkbox"/> PERSONNEL EXPOSED OR CONTAMINATED		<input type="checkbox"/> OFFSITE PROTECTIVE ACTIONS RECOMMENDED			<input type="checkbox"/> *State release path in description	
	Release Rate (Ci/sec)	% T.S. LIMIT	HOO GUIDE	Total Activity (Ci)	% T.S. LIMIT	HOO GUIDE
Noble Gas			0.1 Ci/sec			1000 Ci
Iodine			10 uCi/sec			0.01 Ci
Particulate			1 uCi/sec			1 mCi
Liquid (excluding tritium and dissolved noble gases)			10 uCi/min			0.1 Ci
Liquid (tritium)			0.2 Ci/min			5 Ci
Total Activity						
	PLANT STACK	CONDENSER/AIR EJECTOR	MAIN STEAM LINE	SG BLOWDOWN	OTHER	
RAD MONITOR READINGS						
ALARM SETPOINTS						
% T.S. LIMIT (if applicable)						
RCS OR SG TUBE LEAKS: CHECK OR FILL IN APPLICABLE ITEMS: (specific details/explanations should be covered in event description)						
LOCATION OF THE LEAK (e.g., SG #, valve, pipe, etc.)						
LEAK RATE	UNITS: gpm/gpd	T.S. LIMITS	SUDDEN OR LONG-TERM DEVELOPMENT			
LEAK START DATE	TIME	COOLANT ACTIVITY AND UNITS:	PRIMARY	SECONDARY		
LIST OF SAFETY RELATED EQUIPMENT NOT OPERATIONAL						
EVENT DESCRIPTION (Continued from front)						

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ATTACHMENT 3A
DIRECTIONS FOR COMPLETING THE NRC REACTOR PLANT
EVENT NOTIFICATION WORKSHEET

(Page 1 of 2)

A. Contact information - to be completed following contact

1. Name of the person contacting the NRC or other designated FPL contact.
2. NRC Contacts Name - will be provided upon contact. Also obtain the event number and notification time as received from the HOO should be recorded on the top of the worksheet.

B. Reactor Plant Event Notification Worksheet, Page 1

NOTE

The "EN #" is provided by the NRC.

1. Notification Time - enter the time contact is made.
2. Unit - enter the appropriate unit number: Enter "0" for a classification common to both units.
3. Callers Name - enter the name of the person making the call.
4. Call back # - enter the number of the ENS phone that you are calling from and the commercial phone number at which you can be reached.
5. Event time and Zone - enter the military time, the zone will be "EST" for Eastern Standard Time or "EDT" for Eastern Daylight-savings Time.
6. Event Date - enter the date the event is occurring.
7. Power / Mode Before & Power / Mode After - enter the power in percent and the mode number (1-6) before and after the event.

NOTE

Abbreviations / acronyms (e.g., UNU / AAEC, SIT / AAEC, etc.) are for NRC use only.

8. Event Classifications - check one of the four blocks for General Emergency, Site Area Emergency, Alert, or Notification of Unusual Event.

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ATTACHMENT 3A
DIRECTIONS FOR COMPLETING THE NRC REACTOR PLANT
EVENT NOTIFICATION WORKSHEET
 (Page 2 of 2)

B. (continued)

<u>NOTE</u> No other blocks in the upper half of the form are required.

9. Description - provide a written description of the event.

<u>NOTE</u> Check the blocks in the lower portion of the form based on current conditions.
--

10. Mode of operation until corrected - provided if known.

11. Estimate for restart date - enter "unknown".

12. Additional info on Page 2 - enter yes or no.

C. Reactor Plant Event Notification Worksheet, Page 2

1. Fill in as much of the information on the form as is immediately available - do not create undue delay in making the notification. This information can be gained once the open line of communication is established.

D. Approval

1. Information entered on the worksheet shall be reviewed and approved by the EC or RM (if used in the EOF), prior to transmission.

2. The EC / RM may initial on the worksheet to indicate approval. There is no formal sign-off location on the worksheet.

END OF ATTACHMENT 3A

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 20 of 37
PROCEDURE NO.: EPIP-02		

5.4 Site Area Emergency Declaration Checklist

TIME / INITIAL

Date: ____/____/____

CAUTION

Notification to the State Warning Point (SWP) shall occur within 15 minutes of declaration of the emergency classification.

NOTE

- Steps should be performed in the order presented. When conditions warrant, steps may be performed out of sequence.
- Steps with an asterisk are NOT applicable in the TSC.
- The Duty Call Supervisor (DSC) is available in the Control Room only.
- All Gai-tronics alarms and announcements require Control Room assistance.
- PA announcements are provided as a guideline. Actual announcements may vary from the text provided.
- For assistance with exposure control, refer to:
 - Attachment 4, Field Operator Re-entry Guidelines
 - Attachment 5, Exposure Limits for Emergency Response Personnel
- Not Applicable (N/A) may be used for tasks / steps previously accomplished / satisfied.

1. Determine the following:

- | | | |
|------|---------------------------------------|-------|
| * A. | Shift Technical Advisor (STA) present | Y / N |
| * B. | Duty Call Supervisor (DCS) present | Y / N |
| * C. | Shift Communicator present | Y / N |
| D. | Wind direction (from) | ____° |

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 21 of 37
PROCEDURE NO.: EPIP-02		

5.4 Site Area Emergency Declaration Checklist (continued)

TIME / INITIAL

1. (continued)

NOTE

During any declared emergency, a release is occurring if one of the following is true:

- Any effluent monitor increase of (approximately) 10 times or one decade above pre-transient values.

OR

- Health Physics detecting airborne radioactivity levels in excess of 25 percent Derived Air Concentration (DAC) outside of plant buildings due to failure of equipment associated with the declared emergency.

E. Release in progress Y / N

* F. E-Plan Alarm sounded and Emergency Response Facilities (ERFs) activated Y / N

G. Site evacuated Y / N

H. Site accountability Not Requested / In Progress / Complete

2. Mobilize emergency team personnel (i.e., Fire Team, First Aid Team) as required using Gai-tronics and boost function. ____/____

3. The SM shall declare the emergency to the facility staff and, as necessary, formally announce that he / she is the Emergency Coordinator. ____/____

4. ¶₂ If a release of radioactive material is in progress, Then review personnel access with Health Physics personnel and notify Security personnel with any special instructions. ____/____

5. ¶₁₃ Sound the Emergency Plan (E-Plan) Activation Alarm. (N/A if already preformed) ____/____

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 22 of 37
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5.4 Site Area Emergency Declaration Checklist (continued)

TIME / INITIAL

- 6.** Notify plant personnel using Gai-tronics and boost function as follows: (N/A if facilities already activated)

"Attention all plant personnel, Unit 1 / 2 has declared a SITE AREA EMERGENCY. All emergency response personnel report at once to your assigned emergency response facility."

Repeat the announcement.

___/___

- 7.** If a SITE AREA EMERGENCY plant announcement has NOT been made, Then notify plant personnel using Gai-tronics and boost function:

"Attention all plant personnel, Unit 1/2 has declared a SITE AREA EMERGENCY."

Repeat the announcement.

___/___

- * **8.** Notify the Shift Technical Advisor, Duty Call Supervisor and the Shift Communicator, as appropriate to report to the Control Room using Gai-tronics and boost function. (N/A if already performed)

"Shift Technical Advisor report to the Unit 1 / 2 Control Room."

___/___

"Duty Call Supervisor report to the Unit 1 / 2 Control Room."

___/___

"Shift Communicator report to the Unit 1 / 2 Control Room."

___/___

REVISION NO.: 13	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR ST. LUCIE PLANT	PAGE: 23 of 37
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5.4 Site Area Emergency Declaration Checklist (continued)

TIME / INITIAL

NOTE

Site Evacuation Guidance

No release of radioactive material – send personnel home.

Current or prior release of radioactive material send personnel to the off-site assembly area.

- North to Jaycee Park if wind is from 240° through 60° (clock-wise direction)
- South to Jensen Public Beach Parking Area if wind is from 60° through 240° (clock-wise direction)

9. Sound the Site Evacuation Alarm. (N/A if already performed) /

10. Notify plant personnel using Gai-tronics and boost function as follows: (N/A if already performed)

"Attention all non-emergency response plant personnel, you are directed to commence evacuation of the Owner Controlled Area, report to your vehicles and (Choose one):

Proceed to your homes.

OR

Proceed North / South away from the plant to Jaycee Park / Jensen Public Beach Parking Area for contamination check, accountability and further instructions."

Repeat the announcement. /

* 11. Initiate the call-out process in accordance with EPIP-03, Emergency Response Organization Notification / Staff Augmentation. (this may be accomplished by the DCS) (N/A if already performed) /

12. ¶₆ If a release of radioactive material has occurred or is in progress, Then notify Chemistry to promptly implement EPIP-09, Off-site Dose Calculations, and report the results to the Emergency Coordinator (EC). /

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5.4 Site Area Emergency Declaration Checklist (continued) TIME / INITIAL

13. If a Chemist is unavailable, Then call-out a Chemist (this may be accomplished by the DCS). ___/___
14. ¶₁₅ Complete required notifications in accordance with Appendix A, Notifications from the Affected Control Room, in EPIP-08, Off-site Notifications and Protective Action Recommendations. The DCS may be utilized as a phonetalker.
- State Warning Point ___/___
- NRC ___/___
15. Ensure notification of the following: (this may be accomplished by the DCS)
- Plant Management ___/___
- Security ___/___
- Nuclear Division Duty Officer (NDDO) ___/___
- * 16. Initiate the Operations Department Accountability Aid for both Unit 1 and Unit 2 and provide this list to the TSC when requested. (this may be accomplished by the DCS) (N/A if already performed) ___/___
- * 17. ¶₉ Ensure Operations field personnel return to their assigned Control Room and obtain emergency Electronic Personal Dosimetry (EPD) from the HP Emergency Kit. (N/A if already performed) ___/___
18. ¶₈ Direct all Non-licensed Operators (NLOs), from **both** Units to report to the OSC (when operational) following evacuation of the Owner Controlled Area and completion of immediate Operator actions. ___/___
19. Verify with Security that the evacuation of the Owner Controlled Area has been completed and all personnel have been accounted for. ___/___

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5.4 Site Area Emergency Declaration Checklist (continued) TIME / INITIAL

- 20.** Notify off-site agencies when evacuation is complete: (N/A if already performed)

State Warning Point

___/___

NRC

___/___

- 21.** Utilize Attachment 3, Turnover Guidelines when relinquishing duties to the oncoming EC.

___/___

NOTE

¶₂ New notification forms shall be completed for all updates.

- 22.** **¶₁₅** If State / Local notification has not been completed in the last 60 minutes, Then provide a routine update utilizing a new notification form. The DCS may be utilized as a phonetalker. (Repeat as necessary)

___/___

___/___

___/___

___/___

___/___

- 23.** Turnover off-site interface responsibilities (notifications and Protective Action Recommendations (PARs)) to the Recovery Manager (RM) when the EOF goes operational.

___/___

- 24.** At the direction of the RM, coordinate termination of the emergency and initiation of recovery planning.

___/___

- 25.** SITE AREA EMERGENCY Declaration Checklist complete (emergency upgraded or event terminated).

___/___

END OF SECTION 5.4

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APPENDIX A
NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM
 (Page 1 of 4)

INITIAL

CAUTION

- §₁ Notification of State and local agencies shall be made as soon as practicable within 15 minutes of declaration of an Emergency Class.
- ¶₃ A new Florida Nuclear Plant Emergency Notification Form shall be completed for all updates.

NOTE

- ¶₉ 1. Completion of this checklist requires the following Attachments (all from EPIP-08):
- Attachment 1 – Florida Nuclear Plant Emergency Notification Form
- Attachment 1A – Directions for Completing the Florida Nuclear Plant Emergency Notification Form
- Attachment 2 – Determination of Protective Action Recommendations (PARs)
- Attachment 3 – NRC Reactor Plant Event Notification Worksheet
- Attachment 3A – Directions for Completing the NRC Reactor Plant Event Notification Worksheet
2. Checklist Part 1 is for State Warning Point notification.
3. Checklist Part 2 is for NRC notification.

1. State Warning Point Notification
- A. Prepare the Florida Nuclear Plant Emergency Notification Form (form similar to Attachment 1) in accordance with Attachment 1A, Directions for Completing the Florida Nuclear Plant Emergency Notification Form. _____
- B. Emergency Coordinator (EC) approval. _____

REVISION NO.: 6A	PROCEDURE TITLE: OFF-SITE NOTIFICATIONS AND PROTECTIVE ACTION RECOMMENDATIONS ST. LUCIE PLANT	PAGE: 19 of 49
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APPENDIX A
NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM
(Page 2 of 4)

1. (continued)

INITIAL

NOTE

1. Primary notification method to the State Warning Point (SWP) is to use the Hot Ring Down (HRD) phone.
2. If the HRD is out-of-service, alternate notification methods are provided in Section E, below.

- C. Using the State HOT RING DOWN (HRD) Phone, dial 100.
- D. Hold down the button on the handset while talking. This must be done each time you talk. Release the button in order to listen. When the State Duty Officer answers, announce "This is St. Lucie Nuclear Plant [as applicable (Unit 1, 2)] with an emergency message. I am standing by to transmit the Florida Nuclear Plant Emergency Notification Form when you are ready to copy." Allow the Duty Officer to contact St. Lucie County, Martin County and the Bureau of Radiation Control prior to transmitting the information from the notification form. When the parties are on line, provide the information slowly (e.g., in three word intervals) and deliberately, providing time for the information to be written down.

- E. Alternate Notification Methods (in order of priority)

NOTE

Use of the commercial telephone as an alternate notification method requires callback verification from the State Warning Point. Use of ESATCOM as an alternate notification method should include a callback verification number if available (e.g., cellular phone).

1. Alternate 1 – Commercial Phone
 - a. Call the State Warning Point using the phone number in the St. Lucie Plant Emergency Response Directory (ERD). Announce "This is St. Lucie Nuclear Plant [as applicable (Unit 1 / 2)] with an emergency declaration. My callback number is _____."

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APPENDIX A
NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM
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- | | | | | |
|----|----|----|--|----------------|
| 1. | E. | 1. | (continued) | <u>INITIAL</u> |
| | | b. | Hang up the phone and standby for the callback. When the State Warning Point gives the go-ahead, provide the information from the Florida Nuclear Plant Emergency Notification Form. | _____ |
| | | c. | 1/2 Request callback from the State Warning Point to verify that they notified St. Lucie County, Martin County and the Bureau of Radiation Control. | _____ |
| | | 2. | Alternate 2 - ESATCOM | |

NOTE Use ESATCOM only if Alternate 1 – commercial phone is not available.

- | | | |
|----|--|-------|
| a. | Hold down the "push-to-talk" button on the handset and wait 3-5 seconds to hear a beep before you start talking. This must be done each time you talk. | _____ |
| b. | Announce "State Warning Point, this is St. Lucie Nuclear Plant [as applicable (Unit 1 / 2)] with an emergency declaration." Then release the "push-to-talk" button in order to listen. | _____ |
| c. | When the State Warning Point acknowledges, announce "State Warning Point, this is St. Lucie Nuclear Plant [as applicable (Unit 1 / 2)] declaring a / an (classification), repeat (classification). I am standing by to transmit Florida Nuclear Plant Emergency Notification Form information when you are ready to copy. When the State Warning Point gives the go-ahead, provide the information from the Florida Nuclear Plant Emergency Notification Form. | _____ |
| d. | Announce "St. Lucie clear" at the end of the conversation. | _____ |

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APPENDIX A
NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM
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INITIAL

CAUTION

Notification of the NRC is expected immediately after notification of State and local agencies. The one hour time limit in 10 CFR 50.72 (a)(3) is to ensure timely NRC notification in cases where notification of State and local agencies is delayed or prolonged.

2. §1 NRC Notification

- A.** Prepare the NRC Reactor Plant Event Notification Worksheet (form similar to Attachment 3) in accordance with Attachment 3A, Directions for Completing the NRC Reactor Plant Event Notification Worksheet. _____
- B.** EC approval. _____

NOTE

- 1.** Primary notification method to the NRC is to use the Emergency Notification System (ENS) phone.
- 2.** If the ENS is out-of-service an alternate notification method is provided in Section D, below.

- C.** Transmit the form by dialing one of the numbers shown on the phone or in the Emergency Response Directory (ERD). _____
- D.** Alternate Notification Method
 - 1.** If the ENS is out-of-service, Then use a commercial phone to accomplish the above. _____

END OF APPENDIX A

ATTACHMENT 1
FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM
(Page 1 of 1)

- On-line Verification: ☐ SWP/DEM ☐ St. Lucie County ☐ Martin County
1. A. ☐ THIS IS A DRILL B. ☐ THIS IS AN EMERGENCY
2. A. Date: ____/____/____ B. Contact Time: ____ C. Reported by: (Name) ____
D. Message Number: ____ E. Reported from: ☐ Control Room ☐ TSC ☐ EOF
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 C. ☐ Site Area Emergency
B. ☐ Alert D. ☐ General Emergency
5. A. ☐ Emergency Declaration: B. ☐ Emergency Termination: Date: ____/____/____ Time: ____
6. Reason for Emergency Declaration: A. ☐ EAL Number OR B. ☐ Description: _____
7. Additional Information or Update: A. ☐ None OR B. ☐ _____
8. Weather Data: A. Wind direction from ____ degrees B. Downwind Sectors Affected: _____
9. Release Status: A. ☐ None (Go to Item 11) B. ☐ Is occurring C. ☐ Has occurred, but stopped
10. Release Significance Category (at the Site Boundary):
A. ☐ Information not available at this time.
B. ☐ Release within normal operating limits (≤ 3.5 E-1 Ci/sec noble gas, ≤ 4.6 E-5 Ci/sec iodine)
C. ☐ Non-Significant Fraction of PAG Range (release is $>$ normal limits and $<$ 500 mrem TEDE and 1000 mrem CDE)
D. ☐ PAG Range (≥ 500 mrem TEDE or ≥ 1000 mrem CDE)

11. Utility Recommended Protective Actions:

A. ☐ No recommended actions at this time.

B. ☐ The utility recommends the following protective actions:

<input type="checkbox"/> Miles	No Action Sectors	Evacuate Sectors	Shelter Sectors
0 - 2	_____	_____	_____
2 - 5	_____	_____	_____
5 - 10	_____	_____	_____

OR

Shelter Zones / Areas: _____

Evacuate Zones / Areas: _____

C. Consider Issuance of KI: ☐ Yes ☐ No

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: ☐ N/A OR
A. ☐ Noble Gases ____ Curies per second B. ☐ Iodines ____ Curies per second
C. Airborne: Date Started ____/____/____ Time Started ____ Date Stopped ____/____/____ Time Stopped ____
D. Liquid: Date Started ____/____/____ Time Started ____ Date Stopped ____/____/____ Time Stopped ____
- | Distance | Projected Thyroid Dose (CDE) for 1 Hour | Projected Total Dose (TEDE) for 1 Hour |
|------------------------|---|--|
| 1 Mile (Site Boundary) | E. _____ mrem | F. _____ mrem |
| 2 Miles | G. _____ mrem | H. _____ mrem |
| 5 Miles | I. _____ mrem | J. _____ mrem |
| 10 Miles | K. _____ mrem | L. _____ 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 line 15.

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¶6 ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM
 (Page 1 of 7)

ITEM ENTRY

On-line Verification - Check the appropriate boxes as the State Warning Point (Florida Division of Emergency Management) requests that St. Lucie County Department of Public Safety and the Martin County Division of Emergency Management get on the line, prior to initiating the notification. All three agencies must be notified through the SWP or alternate means.

1. Check appropriate box for drill or actual emergency as the case may be. During exercises, drills, or tests, each message shall be checked **THIS IS A DRILL.**
- 2A. Enter today's date.
- 2B. Enter the time (using the official time, normally synchronized with ERDADS) when contact is made with the State Warning Point or the start time of the RM PAR Briefing. For initial notification of classification, this shall be within 15 minutes of the "Emergency Declaration" time in item 5.
- 2C. Enter the name of the person making the notification call.
- 2D. Enter the message number beginning with #1 and following sequentially in all facilities (e.g., if the Control Room transmitted two messages the TSC would start with #3).
- 2E. Check the box for the facility from which the notification is being made.
3. Site
Check the box for the appropriate plant site for the emergency declaration (both St Lucie boxes might need to be checked for dual unit events such as approach of a hurricane).
4. Emergency Classification
Check the box corresponding to current accident classification declared.
5. Emergency Declaration or Emergency Termination
Enter the **date** and **time** when the current emergency classification was declared (A) or (B) when the emergency was terminated.

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM
 (Page 2 of 7)

6. Reason for Emergency Declaration

Enter the Emergency Action Level (EAL) number (A) (This option is currently not being used at Plant St. Lucie) or (B) enter wording like that found in the EAL information in EPIP-01, Classification Of Emergencies. Wording should be brief yet descriptive enough for the off-site agencies to gain an understanding of the event. It should be clear from the incident description which EAL has necessitated the emergency declaration. Wording should be as non-technical as possible with no acronyms or abbreviations. This information should remain the same throughout update messages, unless there is a classification change.

*** asterisk and instruction provided at the bottom of form - If Emergency Class escalation is necessary due to rapidly degrading conditions, Then provide the State and County authorities with the initial notification information by transmitting lines 1-6, at a minimum, on the State Notification Form (SNF) and terminate the call by stating that a new notification form will be provided within 15 minutes.

7. Additional Information or Update

Check "None" (A) or (B) Description and enter additional information, if necessary, or reason for update here. For example:

- Protective Action Recommendations (PARs) change
- An occurrence that would otherwise result in a lower emergency classification, on other unit
- Weather changes affecting public safety
- Radiation level changes
- Loss of off-site power, etc.

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM
 (Page 3 of 7)

NOTE

If the Class A Model (dose projection model) is being used, a 'State Notification Form Summary Sheet' is available which provides information for items 8-11, 13 and 14. The information is in a format similar to that found on the Florida Nuclear Plant Emergency Notification Form.

8. **Weather Data**

NOTE

10 meter data should be used.

- A. ¶10 Wind direction can be obtained from ERDADS by depressing the "EPIP" key, on the top row of the keyboard. The Met Tower Indicator Panel in the Unit 1 Control Room is an alternate source. If these two sources are not available, refer to Attachment 1, Meteorological Data, in EPIP-09, Off-Site Dose Calculations.
- B. If the wind direction is greater than 360° the wind direction is determined by subtracting 360° from the indicated number. Wind direction should be rounded to the nearest whole number.
- C. Wind direction is always given as "wind from" (an easterly wind, or wind direction 90°, means that the wind is blowing from east to west).
- D. When determining the sectors affected, the adjacent sectors on both sides of the actual downwind sector are included. Three sectors will typically be listed.
- E. If the wind is located on the edge of a sector (i.e., 11°, 33°, etc.) an additional (fourth) sector should be added.
- F. Enter the wind direction (wind from) in degrees in item "A."

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM
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8. (continued)

G. Enter the downwind sectors in item "B."

Wind From	Sectors Affected	Wind From	Sectors Affected	Wind From	Sectors Affected
348-11	HJK	123-146	PQR	236-258	CDE
11-33	JKL	146-168	QRA	258-281	DEF
33-56	KLM	168-191	RAB	281-303	EFG
56-78	LMN	191-213	ABC	303-326	FGH
78-101	MNP	213-236	BCD	326-348	GHJ
101-123	NPQ	There is no "O" sector		There is no "I" sector	

9. Release Status

A. If there are no indications of a release of radioactive material, check box "A" and go to item 11.

A release of radioactive material (during any declared emergency) is defined as:

- Any effluent monitor increase of (approximately) 10 times or one decade above pre-transient values

OR

- Health Physics detecting airborne radioactivity levels in excess of 25% derived air concentration (DAC) outside of plant buildings due to failure of equipment associated with the declared emergency.

B. If a release of radioactive material is occurring, even though it may be less than normal operating limits, check box "B."

C. If a release has occurred but stopped, check box "C."

Dose Assessment personnel in the TSC or EOF will have this information. The TSC Chemistry Supervisor, TSC HP Supervisor or EOF HP Manager should be contacted for the data.

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ATTACHMENT 1A
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NOTIFICATION FORM

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10. Release Significance Category

Do Not Check Any Box in Item 10 If you Checked Box 9 "A" No Release

- A. If a release is occurring or has occurred and dose information is not available at the time of notification, check box "A" and follow up as soon as information becomes available.
- B. Check box "B" if both noble gas and iodine release rates are less than or equal to the following:

Noble Gas release $\leq 3.5 \text{ E}+5 \text{ } \mu\text{Ci/sec}$ ($3.5 \text{ E}-1 \text{ Ci/sec}$)
Iodine release $\leq 4.6 \text{ E}+1 \text{ } \mu\text{Ci/sec}$ ($4.6 \text{ E}-5 \text{ Ci/sec}$)
- C. Check box "C" if either noble gas or iodine release rates exceed the values in "B" (above) but forecasted 1 mile doses are less than either 500 mrem TEDE or 1000 mrem Thyroid CDE. These doses are less than the state's Protective Action Guide (PAG) levels.
- D. Check box "D" if forecasted 1 mile doses are greater than or equal to either 500 mrem TEDE or 1000 mrem Thyroid CDE. These PAG levels require state and county action.

11. Utility Recommended Protective Actions

- A. If there are no Protective Action Recommendations (PARs), check Box "A."
- B. If PARs are necessary, check Box "B". Two formats are provided to record PARs. Use the "sector" format and determine appropriate PARs using the guidance in Attachment 2 to this procedure. Copy the PARs into item 11 "C." Indicate PARs using only the words NONE, ALL, ALL REMAINING or by listing the letters of the sectors affected. Protective Action Recommendations shall be approved by the Emergency Coordinator (EC) or the Recovery Manager (RM). The "zone" format is for Crystal River Unit 3 use only.
- C. Check the "Yes" box (to consider issuance of potassium iodide (KI) only if:
 - (1) A General Emergency has been declared
 - AND
 - (2) A release of radioactive material is occurring.

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
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12. Plant Conditions

Answer the three questions "Yes" or "No" by checking the appropriate box.

- A. Is the reactor shut down?
- B. Is the core adequately cooled?
- C. Is the containment intact?

Answer the question regarding the condition of the core as either stable or degrading.

13. Weather Data

NOTE

10 meter data should be used.

- A. ¶₁₀ Temperature, wind speed and wind direction can be obtained from ERDADS by depressing the "EPIP" key, on the top row of the keyboard. The Met Tower Indicator Panel in the Unit 1 Control Room is an alternate source. If these two sources are not available, refer to Attachment 7, Meteorological Data, in EPIP-09, Off-site Dose Calculations.
- B. Enter wind speed in Miles Per Hour (MPH) in item "A".
- C. Stability Class - Enter the stability class as determined by using the figure below. The figure shows the relationship between the Delta T displayed by ERDADS and the stability class.

If Delta-T is	Then Stability Class is
Less than or equal to -1.7	A
-1.6 to -1.5	B
-1.4	C
-1.3 to -0.5	D
-0.4 to +1.4	E
+1.5 to +3.6	F
Greater than +3.6	G

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM

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14. Additional Release Information

This section requires that a release be in progress and completed results of dose assessment be available. Check the "N/A" box if no release is occurring and/or if dose information is not available. Otherwise, provide all information that applies.

- A. Enter the noble gas release rate in curies per second.
- B. Enter the iodine release rate in curies per second.
- C. For an airborne release, enter the date and time started and when terminated, the date and stopped.
- D. For a liquid release, enter the date and time started and when terminated, the date and time stopped.

Projected Dose Information - Enter the projected Thyroid Dose (CDE) in mrem for 1 hour (EPIP-09, Manual Dose Calculation Worksheet, Line 5) and the projected Total Dose (TEDE) in mrem for 1 hour (EPIP-09, Manual Dose Calculation Worksheet, Line 16) for the site boundary 2, 5 and 10 miles.

15. Message Received By

Enter the name of the State Warning Point Duty Officer or the individual that receives the notification. Enter the time at the State Warning Point (request it from the Duty Officer) and indicate the date the call is completed.

END OF ATTACHMENT 1A

ATTACHMENT 3
18 NRC REACTOR PLANT EVENT NOTIFICATION WORKSHEET
 (Page 1 of 2)

NRC FORM 361 (12-2000)				U.S. NUCLEAR REGULATORY COMMISSION OPERATIONS CENTER			
REACTOR PLANT EVENT NOTIFICATION WORKSHEET						EN #	
NOTIFICATION TIME		FACILITY OR ORGANIZATION		UNIT	NAME OF CALLER		CALL BACK #
EVENT TIME & ZONE		EVENT DATE		POWERMODE BEFORE		POWERMODE AFTER	
EVENT CLASSIFICATIONS				1-Hr. Non-Emergency 10 CFR 50.72(b)(1)		(v)(A) Safe S/D Capability AINA	
GENERAL EMERGENCY		GEN/AAEC		TS Deviation ADEV		(v)(B) RHR Capability AINB	
SITE AREA EMERGENCY		SIT/AAEC		4-Hr. Non-Emergency 10 CFR 50.72(b)(2)		(v)(C) Control of Rad Release AINC	
ALERT		ALE/AAEC		(I) TS Required S/D ASHU		(v)(D) Accident Mitigation AIND	
UNUSUAL EVENT		UNU/AAEC		(iv)(A) ECCS Discharge to RCS ACCS		(xi) Offsite Medical AMED	
50.72 NON-EMERGENCY (see next columns)				(iv)(B) RPS Actuation (scram) ARPS		(xii) Loss Comm/Asmt/Resp ACOM	
PHYSICAL SECURITY (73.71)		DDDD		(xi) Offsite Notification APRE		60-Day Optional 10 CFR 50.73(a)(1)	
MATERIAL/EXPOSURE		B???		8-Hr. Non-Emergency 10 CFR 50.72(b)(3)		Invalid Specified System Actuation AINA	
FITNESS FOR DUTY		HFIT		(ii)(A) Degraded Condition ADEG		Other Unspecified Requirement (Identify)	
OTHER UNSPECIFIED REQMT. (see last column)				(ii)(B) Unanalyzed Condition AUNA		NONR	
INFORMATION ONLY		NNF		(iv)(A) Specified System Actuation AESF		NONR	
DESCRIPTION							
Include: Systems affected, actuations and their initiating signals, causes, effect of event on plant, actions taken or planned, etc. (Continue on back)							
NOTIFICATIONS		YES	NO	WILL BE	ANYTHING UNUSUAL OR NOT UNDERSTOOD?		
NRC RESIDENT					<input type="checkbox"/> YES (Explain above) <input type="checkbox"/> NO		
STATE(s)					DID ALL SYSTEMS FUNCTION AS REQUIRED?		
LOCAL					<input type="checkbox"/> YES <input type="checkbox"/> NO (Explain above)		
OTHER GOV AGENCIES					MODE OF OPERATION UNTIL CORRECTED:		
MEDIA/PRESS RELEASE					ESTIMATED RESTART DATE:		ADDITIONAL INFO ON BACK
					<input type="checkbox"/> YES <input type="checkbox"/> NO		<input type="checkbox"/> YES <input type="checkbox"/> NO

ATTACHMENT 3
18 NRC REACTOR PLANT EVENT NOTIFICATION WORKSHEET
 (Page 2 of 2)

RADIOLOGICAL RELEASES: CHECK OR FILL IN APPLICABLE ITEMS (specific details/explanations should be covered in event description)						
<input type="checkbox"/> LIQUID RELEASE	<input type="checkbox"/> GASEOUS RELEASE	<input type="checkbox"/> UNPLANNED RELEASE	<input type="checkbox"/> PLANNED RELEASE	<input type="checkbox"/> ONGOING	<input type="checkbox"/> TERMINATED	
<input type="checkbox"/> MONITORED	<input type="checkbox"/> UNMONITORED	<input type="checkbox"/> OFFSITE RELEASE	<input type="checkbox"/> T.S. EXCEEDED	<input type="checkbox"/> RM ALARMS	<input type="checkbox"/> AREAS EVACUATED	
<input type="checkbox"/> PERSONNEL EXPOSED OR CONTAMINATED		<input type="checkbox"/> OFFSITE PROTECTIVE ACTIONS RECOMMENDED			<input type="checkbox"/> *State release path in description	
	Release Rate (Ci/sec)	% T.S. LIMIT	HOO GUIDE	Total Activity (Ci)	% T.S. LIMIT	HOO GUIDE
Noble Gas			0.1 Ci/sec			1000 Ci
Iodine			10 uCi/sec			0.01 Ci
Particulate			1 uCi/sec			1 mCi
Liquid (excluding tritium and dissolved noble gases)			10 uCi/min			0.1 Ci
Liquid (tritium)			0.2 Ci/min			5 Ci
Total Activity						
	PLANT STACK	CONDENSER/AIR EJECTOR	MAIN STEAM LINE	SG BLOWDOWN	OTHER	
RAD MONITOR READINGS						
ALARM SETPOINTS						
% T.S. LIMIT (if applicable)						
RCS OR SG TUBE LEAKS: CHECK OR FILL IN APPLICABLE ITEMS: (specific details/explanations should be covered in event description)						
LOCATION OF THE LEAK (e.g., SG #, valve, pipe, etc.)						
LEAK RATE	UNITS: gpm/gpd	T.S. LIMITS	SUDDEN OR LONG-TERM DEVELOPMENT			
LEAK START DATE	TIME	COOLANT ACTIVITY AND UNITS:	PRIMARY	SECONDARY		
LIST OF SAFETY RELATED EQUIPMENT NOT OPERATIONAL						
EVENT DESCRIPTION (Continued from front)						

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ATTACHMENT 3A
DIRECTIONS FOR COMPLETING THE NRC REACTOR PLANT
EVENT NOTIFICATION WORKSHEET

(Page 1 of 2)

A. Contact information - to be completed following contact

1. Name of the person contacting the NRC or other designated FPL contact.
2. NRC Contacts Name - will be provided upon contact. Also obtain the event number and notification time as received from the HOO should be recorded on the top of the worksheet.

B. Reactor Plant Event Notification Worksheet, Page 1

NOTE

The "EN #" is provided by the NRC.

1. Notification Time - enter the time contact is made.
2. Unit - enter the appropriate unit number: Enter "0" for a classification common to both units.
3. Callers Name - enter the name of the person making the call.
4. Call back # - enter the number of the ENS phone that you are calling from and the commercial phone number at which you can be reached.
5. Event time and Zone - enter the military time, the zone will be "EST" for Eastern Standard Time or "EDT" for Eastern Daylight-savings Time.
6. Event Date - enter the date the event is occurring.
7. Power / Mode Before & Power / Mode After - enter the power in percent and the mode number (1-6) before and after the event.

NOTE

Abbreviations / acronyms (e.g., UNU / AAEC, SIT / AAEC, etc.) are for NRC use only.

8. Event Classifications - check one of the four blocks for General Emergency, Site Area Emergency, Alert, or Notification of Unusual Event.

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ATTACHMENT 3A
DIRECTIONS FOR COMPLETING THE NRC REACTOR PLANT
EVENT NOTIFICATION WORKSHEET
 (Page 2 of 2)

B. (continued)

NOTE

No other blocks in the upper half of the form are required.

9. Description - provide a written description of the event.

NOTE

Check the blocks in the lower portion of the form based on current conditions.

10. Mode of operation until corrected - provided if known.
11. Estimate for restart date - enter "unknown".
12. Additional info on Page 2 - enter yes or no.

C. Reactor Plant Event Notification Worksheet, Page 2

1. Fill in as much of the information on the form as is immediately available - do not create undue delay in making the notification. This information can be gained once the open line of communication is established.

D. Approval

1. Information entered on the worksheet shall be reviewed and approved by the EC or RM (if used in the EOF), prior to transmission.
2. The EC / RM may initial on the worksheet to indicate approval. There is no formal sign-off location on the worksheet.

END OF ATTACHMENT 3A

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PROCEDURE NO.: EPIP-02		

5.5 General Emergency Declaration Checklist

TIME / INITIAL

Date: ____/____/____

CAUTION

- Protective Action Recommendations (PARs) are required for a General Emergency.
- Notification to the State Warning Point (SWP) shall occur within 15 minutes of declaration of the emergency classification.

NOTE

- Steps should be performed in the order presented. When conditions warrant, steps may be performed out of sequence.
- Steps with an asterisk are NOT applicable in the TSC.
- The Duty Call Supervisor (DSC) is available in the Control Room only.
- All Gai-tronics alarms and announcements require Control Room assistance.
- PA announcements are provided as a guideline. Actual announcements may vary from the text provided.
- For assistance with exposure control, refer to:
 - Attachment 4, Field Operator Re-entry Guidelines
 - Attachment 5, Exposure Limits for Emergency Response Personnel
- Not Applicable (N/A) may be used for tasks / steps previously accomplished / satisfied.

1. Determine the following:

- | | | |
|------|---------------------------------------|-------|
| * A. | Shift Technical Advisor (STA) present | Y / N |
| * B. | Duty Call Supervisor (DCS) present | Y / N |
| * C. | Shift Communicator present | Y / N |
| D. | Wind direction (from) | ____° |

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5.5 General Emergency Declaration Checklist (continued)

TIME / INITIAL

1. (continued)

NOTE

During any declared emergency a release is occurring if one of the following is true:

- Any effluent monitor increase of (approximately) 10 times or one decade above pre-transient values.

OR

- Health Physics detecting airborne radioactivity levels in excess of 25 percent Derived Air Concentration (DAC) outside of plant buildings due to failure of equipment associated with the declared emergency.

E. Release in progress Y / N

* F. E-Plan Alarm sounded and Emergency Response Facilities (ERFs) activated Y / N

G. Site Evacuation Alarm sounded and site evacuated Y / N

H. Site accountability Not Requested / In Progress / Complete

2. Mobilize emergency team personnel (i.e., Fire Team, First Aid Team) as required using Gai-tronics and boost function. /

3. The SM shall declare the emergency to the facility staff and, as necessary, formally announce that he / she is the Emergency Coordinator. /

4. ¶₂ If a radioactive release is in progress, Then review personnel access with Health Physics personnel and notify Security personnel with any special instructions. /

5. ¶₁₃ Sound the Emergency Plan (E-Plan) Activation Alarm. (N/A if already preformed) /

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5.5 General Emergency Declaration Checklist (continued)

TIME / INITIAL

- 6.** Notify plant personnel using Gai-tronics and boost function as follows: (N/A if facilities already activated)

"Attention all plant personnel, Unit 1 / 2 has declared a GENERAL EMERGENCY. All emergency response personnel report at once to your assigned emergency response facility."

Repeat the announcement.

____/____

- 7.** If a GENERAL EMERGENCY plant announcement has not been made, Then notify plant personnel using Gai-tronics and boost function:

"Attention all plant personnel, Unit 1 / 2 has declared a GENERAL EMERGENCY."

Repeat the announcement.

____/____

- * **8.** Notify the Shift Technical Advisor, Duty Call Supervisor and the Shift Communicator, as appropriate to report to the Control Room using Gai-tronics and boost function. (N/A if already performed)

"Shift Technical Advisor report to the Unit 1 / 2 Control Room."

____/____

"Duty Call Supervisor report to the Unit 1 / 2 Control Room."

____/____

"Shift Communicator report to the Unit 1 / 2 Control Room."

____/____

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5.5 General Emergency Declaration Checklist (continued)

TIME / INITIAL

NOTE

Site Evacuation Guidance

No release of radioactive material – send personnel home.

Current or prior release of radioactive material send personnel to the off-site assembly area.

- North to Jaycee Park if wind is from 240° through 60° (clock-wise direction)
- South to Jensen Public Beach Parking Area if wind is from 60° through 240° (clock-wise direction)

9. Sound the Site Evacuation Alarm. (N/A if already performed) /

10. Notify plant personnel using Gai-tronics and boost function as follows: (N/A if site evacuated)

“Attention all plant personnel, Unit 1 / 2 has declare a GENERAL EMERGENCY, all non-emergency response plant personnel are directed to commence evacuation of the Owner Controlled Area, report to your vehicles and (Choose one):

Proceed to your homes.

OR

Proceed North / South away form the plant to Jaycee Park / Jensen Public Beach Parking Area for contamination check, accountability and further instructions.”

Repeat the announcement. /

* 11. Initiate the call-out process in accordance with EPIP-03, Emergency Response Organization Notification / Staff Augmentation. (this may be accomplished by the DCS) (N/A if already performed) /

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5.5 General Emergency Declaration Checklist (continued)

TIME / INITIAL

12. ¶₆ If a radioactive release has occurred or is in progress, Then notify Chemistry to promptly implement EPIP-09, Off-site Dose Calculations, and report the results to the Emergency Coordinator (EC). ___/___
13. If a Chemist is unavailable, Then call-out a Chemist (this may be accomplished by the DCS). ___/___
14. Complete required notifications in accordance with Appendix A, Notifications from the Affected Control Room, in EPIP-08, Off-site Notifications and Protective Action Recommendations. The DCS may be utilized as a phonetalker.

State Warning Point ___/___
NRC ___/___
15. Ensure notification of the following: (this may be accomplished by the DCS)

Plant Management ___/___
Security ___/___
Nuclear Division Duty Officer (NDDO) ___/___
- * 16. Initiate the Operations Department Accountability Aid for both Unit 1 and Unit 2 and provide this list to the TSC when requested. (this may be accomplished by the DCS) (N/A if already performed) ___/___
- * 17. ¶₉ Ensure Operations field personnel return to their assigned Control Room and obtain emergency Electronic Personal Dosimetry (EPD) from the HP Emergency Kit. (N/A if already performed) ___/___
18. ¶₈ Direct all Non-licensed Operators (NLOs), from **both** Units to report to the OSC (when operational) following evacuation of the Owner Controlled Area and completion of immediate Operator actions. (N/A if already performed) ___/___
19. Verify with Security that the evacuation of the Owner Controlled Area has been completed and all personnel have been accounted for. (N/A if already performed) ___/___

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5.5 General Emergency Declaration Checklist (continued) TIME / INITIAL

- 20.** Notify off-site agencies when evacuation is complete: (N/A if already performed)

State Warning Point

___/___

NRC

___/___

- 21.** Utilize Attachment 3, Turnover Guidelines when relinquishing duties to the oncoming EC.

___/___

NOTE

¶₂ New notification forms shall be completed for all updates.

- 22.** **¶₁₅** If State / Local notification has not been completed in the last 60 minutes, Then provide a routine update utilizing a new notification form. The DCS may be utilized as a phonetalker. (Repeat as necessary)

___/___

___/___

___/___

___/___

___/___

- 23.** Turnover off-site interface responsibilities (notifications and Protective Action Recommendations (PARs)) to the Recovery Manager (RM) when the EOF goes operational.

___/___

- 24.** At the direction of the RM, coordinate termination of the emergency and initiation of recovery planning.

___/___

- 25.** GENERAL EMERGENCY Declaration Checklist complete (event terminated).

___/___

END OF SECTION 5.5

REVISION NO.: 6A	PROCEDURE TITLE: OFF-SITE NOTIFICATIONS AND PROTECTIVE ACTION RECOMMENDATIONS ST. LUCIE PLANT	PAGE: 18 of 49
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APPENDIX A
NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM
 (Page 1 of 4)

INITIAL

CAUTION

- §1 Notification of State and local agencies shall be made as soon as practicable within 15 minutes of declaration of an Emergency Class.
- ¶3 A new Florida Nuclear Plant Emergency Notification Form shall be completed for all updates.

NOTE

- ¶9 1. Completion of this checklist requires the following Attachments (all from EPIP-08):
- Attachment 1 – Florida Nuclear Plant Emergency Notification Form
- Attachment 1A – Directions for Completing the Florida Nuclear Plant Emergency Notification Form
- Attachment 2 – Determination of Protective Action Recommendations (PARs)
- Attachment 3 – NRC Reactor Plant Event Notification Worksheet
- Attachment 3A – Directions for Completing the NRC Reactor Plant Event Notification Worksheet
2. Checklist Part 1 is for State Warning Point notification.
3. Checklist Part 2 is for NRC notification.

1. State Warning Point Notification
- A. Prepare the Florida Nuclear Plant Emergency Notification Form (form similar to Attachment 1) in accordance with Attachment 1A, Directions for Completing the Florida Nuclear Plant Emergency Notification Form. _____
- B. Emergency Coordinator (EC) approval. _____

REVISION NO.: 6A	PROCEDURE TITLE: OFF-SITE NOTIFICATIONS AND PROTECTIVE ACTION RECOMMENDATIONS ST. LUCIE PLANT	PAGE: 19 of 49
PROCEDURE NO.: EPiP-08		

APPENDIX A
NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM
 (Page 2 of 4)

1. (continued)

INITIAL

NOTE

1. Primary notification method to the State Warning Point (SWP) is to use the Hot Ring Down (HRD) phone.
2. If the HRD is out-of-service, alternate notification methods are provided in Section E, below.

C. Using the State HOT RING DOWN (HRD) Phone, dial 100. _____

D. Hold down the button on the handset while talking. This must be done each time you talk. Release the button in order to listen. When the State Duty Officer answers, announce "This is St. Lucie Nuclear Plant [as applicable (Unit 1, 2)] with an emergency message. I am standing by to transmit the Florida Nuclear Plant Emergency Notification Form when you are ready to copy." Allow the Duty Officer to contact St. Lucie County, Martin County and the Bureau of Radiation Control prior to transmitting the information from the notification form. When the parties are on line, provide the information slowly (e.g., in three word intervals) and deliberately, providing time for the information to be written down. _____

E. Alternate Notification Methods (in order of priority)

NOTE

Use of the commercial telephone as an alternate notification method requires callback verification from the State Warning Point. Use of ESATCOM as an alternate notification method should include a callback verification number if available (e.g., cellular phone).

1. Alternate 1 – Commercial Phone

- a. Call the State Warning Point using the phone number in the St. Lucie Plant Emergency Response Directory (ERD). Announce "This is St. Lucie Nuclear Plant [as applicable (Unit 1 / 2)] with an emergency declaration. My callback number is _____."

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APPENDIX A
NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM
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- | | | | | |
|----|----|----|--|----------------|
| 1. | E. | 1. | (continued) | <u>INITIAL</u> |
| | | b. | Hang up the phone and standby for the callback. When the State Warning Point gives the go-ahead, provide the information from the Florida Nuclear Plant Emergency Notification Form. | _____ |
| | | c. | 1/2 Request callback from the State Warning Point to verify that they notified St. Lucie County, Martin County and the Bureau of Radiation Control. | _____ |
| | | 2. | Alternate 2 - ESATCOM | |

NOTE

Use ESATCOM only if Alternate 1 – commercial phone is not available.

- | | | |
|----|--|-------|
| a. | Hold down the "push-to-talk" button on the handset and wait 3-5 seconds to hear a beep before you start talking. This must be done each time you talk. | _____ |
| b. | Announce "State Warning Point, this is St. Lucie Nuclear Plant [as applicable (Unit 1 / 2)] with an emergency declaration." Then release the "push-to-talk" button in order to listen. | _____ |
| c. | When the State Warning Point acknowledges, announce "State Warning Point, this is St. Lucie Nuclear Plant [as applicable (Unit 1 / 2)] declaring a / an (classification), repeat (classification). I am standing by to transmit Florida Nuclear Plant Emergency Notification Form information when you are ready to copy. When the State Warning Point gives the go-ahead, provide the information from the Florida Nuclear Plant Emergency Notification Form. | _____ |
| d. | Announce "St. Lucie clear" at the end of the conversation. | _____ |

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APPENDIX A
NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM
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INITIAL

CAUTION

Notification of the NRC is expected immediately after notification of State and local agencies. The one hour time limit in 10 CFR 50.72 (a)(3) is to ensure timely NRC notification in cases where notification of State and local agencies is delayed or prolonged.

2. §1 NRC Notification

A. Prepare the NRC Reactor Plant Event Notification Worksheet (form similar to Attachment 3) in accordance with Attachment 3A, Directions for Completing the NRC Reactor Plant Event Notification Worksheet.

B. EC approval.

NOTE

1. Primary notification method to the NRC is to use the Emergency Notification System (ENS) phone.
2. If the ENS is out-of-service an alternate notification method is provided in Section D, below.

C. Transmit the form by dialing one of the numbers shown on the phone or in the Emergency Response Directory (ERD).

D. Alternate Notification Method

1. If the ENS is out-of-service, Then use a commercial phone to accomplish the above.

END OF APPENDIX A

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¶₆ ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM

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ITEM ENTRY

On-line Verification - Check the appropriate boxes as the State Warning Point (Florida Division of Emergency Management) requests that St. Lucie County Department of Public Safety and the Martin County Division of Emergency Management get on the line, prior to initiating the notification. All three agencies must be notified through the SWP or alternate means.

1. Check appropriate box for drill or actual emergency as the case may be. During exercises, drills, or tests, each message shall be checked **THIS IS A DRILL.**
- 2A. Enter today's date.
- 2B. Enter the time (using the official time, normally synchronized with ERDADS) when contact is made with the State Warning Point or the start time of the RM PAR Briefing. For initial notification of classification, this shall be within 15 minutes of the "Emergency Declaration" time in item 5.
- 2C. Enter the name of the person making the notification call.
- 2D. Enter the message number beginning with #1 and following sequentially in all facilities (e.g., if the Control Room transmitted two messages the TSC would start with #3).
- 2E. Check the box for the facility from which the notification is being made.
3. Site
Check the box for the appropriate plant site for the emergency declaration (both St Lucie boxes might need to be checked for dual unit events such as approach of a hurricane).
4. Emergency Classification
Check the box corresponding to current accident classification declared.
5. Emergency Declaration or Emergency Termination
Enter the **date** and **time** when the current emergency classification was declared (A) or (B) when the emergency was terminated.

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6. Reason for Emergency Declaration
 Enter the Emergency Action Level (EAL) number (A) (This option is currently not being used at Plant St. Lucie) or (B) enter wording like that found in the EAL information in EPIP-01, Classification Of Emergencies. Wording should be brief yet descriptive enough for the off-site agencies to gain an understanding of the event. It should be clear from the incident description which EAL has necessitated the emergency declaration. Wording should be as non-technical as possible with no acronyms or abbreviations. This information should remain the same throughout update messages, unless there is a classification change.
- *** asterisk and instruction provided at the bottom of form - If Emergency Class escalation is necessary due to rapidly degrading conditions, Then provide the State and County authorities with the initial notification information by transmitting lines 1-6, at a minimum, on the State Notification Form (SNF) and terminate the call by stating that a new notification form will be provided within 15 minutes.
7. Additional Information or Update
 Check "None" (A) or (B) Description and enter additional information, if necessary, or reason for update here. For example:
- Protective Action Recommendations (PARs) change
 - An occurrence that would otherwise result in a lower emergency classification, on other unit
 - Weather changes affecting public safety
 - Radiation level changes
 - Loss of off-site power, etc.

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NOTE

If the Class A Model (dose projection model) is being used, a 'State Notification Form Summary Sheet' is available which provides information for items 8-11, 13 and 14. The information is in a format similar to that found on the Florida Nuclear Plant Emergency Notification Form.

8. Weather Data

NOTE

10 meter data should be used.

- A. ¶₁₀ Wind direction can be obtained from ERDADS by depressing the "EPIP" key, on the top row of the keyboard. The Met Tower Indicator Panel in the Unit 1 Control Room is an alternate source. If these two sources are not available, refer to Attachment 1, Meteorological Data, in EPIP-09, Off-Site Dose Calculations.
- B. If the wind direction is greater than 360° the wind direction is determined by subtracting 360° from the indicated number. Wind direction should be rounded to the nearest whole number.
- C. Wind direction is always given as "wind from" (an easterly wind, or wind direction 90°, means that the wind is blowing from east to west).
- D. When determining the sectors affected, the adjacent sectors on both sides of the actual downwind sector are included. Three sectors will typically be listed.
- E. If the wind is located on the edge of a sector (i.e., 11°, 33°, etc.) an additional (fourth) sector should be added.
- F. Enter the wind direction (wind from) in degrees in item "A."

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DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
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8. (continued)

G. Enter the downwind sectors in item "B."

Wind From	Sectors Affected	Wind From	Sectors Affected	Wind From	Sectors Affected
348-11	HJK	123-146	PQR	236-258	CDE
11-33	JKL	146-168	QRA	258-281	DEF
33-56	KLM	168-191	RAB	281-303	EFG
56-78	LMN	191-213	ABC	303-326	FGH
78-101	MNP	213-236	BCD	326-348	GHJ
101-123	NPQ	There is no "O" sector		There is no "I" sector	

9. Release Status

A. If there are no indications of a release of radioactive material, check box "A" and go to item 11.

A release of radioactive material (during any declared emergency) is defined as:

- Any effluent monitor increase of (approximately) 10 times or one decade above pre-transient values

OR

- Health Physics detecting airborne radioactivity levels in excess of 25% derived air concentration (DAC) outside of plant buildings due to failure of equipment associated with the declared emergency.

B. If a release of radioactive material is occurring, even though it may be less than normal operating limits, check box "B."

C. If a release has occurred but stopped, check box "C."

Dose Assessment personnel in the TSC or EOF will have this information. The TSC Chemistry Supervisor, TSC HP Supervisor or EOF HP Manager should be contacted for the data.

/R6

/K6

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10. Release Significance Category

Do Not Check Any Box in Item 10 if you Checked Box 9 "A" No Release

- A. If a release is occurring or has occurred and dose information is not available at the time of notification, check box "A" and follow up as soon as information becomes available.
- B. Check box "B" if both noble gas and iodine release rates are less than or equal to the following:

Noble Gas release $\leq 3.5 \text{ E}+5 \text{ } \mu\text{Ci/sec}$ ($3.5 \text{ E}-1 \text{ Ci/sec}$)
Iodine release $\leq 4.6 \text{ E}+1 \text{ } \mu\text{Ci/sec}$ ($4.6 \text{ E}-5 \text{ Ci/sec}$)
- C. Check box "C" if either noble gas or iodine release rates exceed the values in "B" (above) but forecasted 1 mile doses are less than either 500 mrem TEDE or 1000 mrem Thyroid CDE. These doses are less than the state's Protective Action Guide (PAG) levels.
- D. Check box "D" if forecasted 1 mile doses are greater than or equal to either 500 mrem TEDE or 1000 mrem Thyroid CDE. These PAG levels require state and county action.

11. Utility Recommended Protective Actions

- A. If there are no Protective Action Recommendations (PARs), check Box "A."
- B. If PARs are necessary, check Box "B". Two formats are provided to record PARs. Use the "sector" format and determine appropriate PARs using the guidance in Attachment 2 to this procedure. Copy the PARs into item 11 "C." Indicate PARs using only the words NONE, ALL, ALL REMAINING or by listing the letters of the sectors affected. Protective Action Recommendations shall be approved by the Emergency Coordinator (EC) or the Recovery Manager (RM). The "zone" format is for Crystal River Unit 3 use only.
- C. Check the "Yes" box (to consider issuance of potassium iodide (KI) only if:
 - (1) A General Emergency has been declared
 - AND
 - (2) A release of radioactive material is occurring.

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DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM
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12. Plant Conditions

Answer the three questions "Yes" or "No" by checking the appropriate box.

- A. Is the reactor shut down?
- B. Is the core adequately cooled?
- C. Is the containment intact?

Answer the question regarding the condition of the core as either stable or degrading.

13. Weather Data

NOTE
 10 meter data should be used.

- A. ¶₁₀ Temperature, wind speed and wind direction can be obtained from ERDADS by depressing the "EPIP" key, on the top row of the keyboard. The Met Tower Indicator Panel in the Unit 1 Control Room is an alternate source. If these two sources are not available, refer to Attachment 7, Meteorological Data, in EPIP-09, Off-site Dose Calculations.
- B. Enter wind speed in Miles Per Hour (MPH) in item "A".
- C. Stability Class - Enter the stability class as determined by using the figure below. The figure shows the relationship between the Delta T displayed by ERDADS and the stability class.

If Delta-T is	Then Stability Class is
Less than or equal to -1.7	A
-1.6 to -1.5	B
-1.4	C
-1.3 to -0.5	D
-0.4 to +1.4	E
+1.5 to +3.6	F
Greater than +3.6	G

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14. Additional Release Information

This section requires that a release be in progress and completed results of dose assessment be available. Check the "N/A" box if no release is occurring and/or if dose information is not available. Otherwise, provide all information that applies.

- A. Enter the noble gas release rate in curies per second.
- B. Enter the iodine release rate in curies per second.
- C. For an airborne release, enter the date and time started and when terminated, the date and stopped.
- D. For a liquid release, enter the date and time started and when terminated, the date and time stopped.

Projected Dose Information - Enter the projected Thyroid Dose (CDE) in mrem for 1 hour (EPIP-09, Manual Dose Calculation Worksheet, Line 5) and the projected Total Dose (TEDE) in mrem for 1 hour (EPIP-09, Manual Dose Calculation Worksheet, Line 16) for the site boundary 2, 5 and 10 miles.

15. Message Received By

Enter the name of the State Warning Point Duty Officer or the individual that receives the notification. Enter the time at the State Warning Point (request it from the Duty Officer) and indicate the date the call is completed.

END OF ATTACHMENT 1A

ATTACHMENT 3
18 NRC REACTOR PLANT EVENT NOTIFICATION WORKSHEET
 (Page 1 of 2)

NRC FORM 361 (12-2000)		REACTOR PLANT EVENT NOTIFICATION WORKSHEET						U.S. NUCLEAR REGULATORY COMMISSION OPERATIONS CENTER	
						EN #			
NOTIFICATION TIME		FACILITY OR ORGANIZATION		UNIT		NAME OF CALLER		CALL BACK #	
EVENT TIME & ZONE		EVENT DATE		POWERMODE BEFORE		POWERMODE AFTER			
EVENT CLASSIFICATIONS				1-Hr. Non-Emergency 10 CFR 50.72(b)(1)		(v)(A) Safe S/D Capability AINA			
GENERAL EMERGENCY		GEN/AAEC		TS Deviation ADEV		(v)(B) RHR Capability		AINB	
SITE AREA EMERGENCY		SIT/AAEC		4-Hr. Non-Emergency 10 CFR 50.72(b)(2)		(v)(C) Control of Rad Release		AINC	
ALERT		ALE/AAEC		(i) TS Required S/D ASHU		(v)(D) Accident Mitigation		AIND	
UNUSUAL EVENT		UNU/AAEC		(iv)(A) ECCS Discharge to RCS ACCS		(xii) Offsite Medical		AMED	
50.72 NON-EMERGENCY (see next columns)				(iv)(B) RPS Actuation (scram) ARPS		(xiii) Loss Comm/Asmt/Resp		ACOM	
PHYSICAL SECURITY (73.71)		DDDD		(x) Offsite Notification APRE		60-Day Optional 10 CFR 50.73(a)(1)			
MATERIAL/EXPOSURE		B???		8-Hr. Non-Emergency 10 CFR 50.72(b)(3)		Invalid Specified System Actuation AINA			
FITNESS FOR DUTY		HFIT		(ii)(A) Degraded Condition ADEG		Other Unspecified Requirement (Identify)			
OTHER UNSPECIFIED REQMT. (see last column)				(ii)(B) Unanalyzed Condition AUNA		NONR			
INFORMATION ONLY		NNF		(iv)(A) Specified System Actuation AESF		NONR			
DESCRIPTION									
Include: Systems affected, actuations and their initiating signals, causes, effect of event on plant, actions taken or planned, etc. (Continue on back)									
NOTIFICATIONS		YES	NO	WILL BE	ANYTHING UNUSUAL OR NOT UNDERSTOOD?		<input type="checkbox"/> YES (Explain above) <input type="checkbox"/> NO		
NRC RESIDENT									
STATE(s)					DID ALL SYSTEMS FUNCTION AS REQUIRED?		<input type="checkbox"/> YES <input type="checkbox"/> NO (Explain above)		
LOCAL									
OTHER GOV AGENCIES					MODE OF OPERATION UNTIL CORRECTED:		ESTIMATED RESTART DATE:		ADDITIONAL INFO ON BACK
MEDIA/PRESS RELEASE									<input type="checkbox"/> YES <input type="checkbox"/> NO

ATTACHMENT 3
118 NRC REACTOR PLANT EVENT NOTIFICATION WORKSHEET
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RADIOLOGICAL RELEASES: CHECK OR FILL IN APPLICABLE ITEMS (specific details/explanations should be covered in event description)						
LIQUID RELEASE	GASEOUS RELEASE	UNPLANNED RELEASE	PLANNED RELEASE	ONGOING	TERMINATED	
MONITORED	UNMONITORED	OFFSITE RELEASE	T.S. EXCEEDED	RM ALARMS	AREAS EVACUATED	
PERSONNEL EXPOSED OR CONTAMINATED		OFFSITE PROTECTIVE ACTIONS RECOMMENDED			*State release path in description	
	Release Rate (Ci/sec)	% T.S. LIMIT	HOO GUIDE	Total Activity (Ci)	% T.S. LIMIT	HOO GUIDE
Noble Gas			0.1 Ci/sec			1000 Ci
Iodine			10 uCi/sec			0.01 Ci
Particulate			1 uCi/sec			1 mCi
Liquid (excluding tritium and dissolved noble gases)			10 uCi/min			0.1 Ci
Liquid (tritium)			0.2 Ci/min			5 Ci
Total Activity						
	PLANT STACK	CONDENSER/AIR EJECTOR	MAIN STEAM LINE	SG BLOWDOWN	OTHER	
RAD MONITOR READINGS						
ALARM SETPOINTS						
% T.S. LIMIT (if applicable)						
RCS OR SG TUBE LEAKS: CHECK OR FILL IN APPLICABLE ITEMS: (specific details/explanations should be covered in event description)						
LOCATION OF THE LEAK (e.g., SG #, valve, pipe, etc.)						
LEAK RATE	UNITS: gpm/gpd	T.S. LIMITS	SUDDEN OR LONG-TERM DEVELOPMENT			
LEAK START DATE	TIME	COOLANT ACTIVITY AND UNITS:	PRIMARY	SECONDARY		
LIST OF SAFETY RELATED EQUIPMENT NOT OPERATIONAL						
EVENT DESCRIPTION (Continued from front)						

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DIRECTIONS FOR COMPLETING THE NRC REACTOR PLANT
EVENT NOTIFICATION WORKSHEET
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- A.** Contact information - to be completed following contact
1. Name of the person contacting the NRC or other designated FPL contact.
 2. NRC Contacts Name - will be provided upon contact. Also obtain the event number and notification time as received from the HOO should be recorded on the top of the worksheet.
- B.** Reactor Plant Event Notification Worksheet, Page 1

NOTE

The "EN #" is provided by the NRC.

1. Notification Time - enter the time contact is made.
2. Unit - enter the appropriate unit number: Enter "0" for a classification common to both units.
3. Callers Name - enter the name of the person making the call.
4. Call back # - enter the number of the ENS phone that you are calling from and the commercial phone number at which you can be reached.
5. Event time and Zone - enter the military time, the zone will be "EST" for Eastern Standard Time or "EDT" for Eastern Daylight-savings Time.
6. Event Date - enter the date the event is occurring.
7. Power / Mode Before & Power / Mode After - enter the power in percent and the mode number (1-6) before and after the event.

NOTE

Abbreviations / acronyms (e.g., UNU / AAEC, SIT / AAEC, etc.) are for NRC use only.

8. Event Classifications - check one of the four blocks for General Emergency, Site Area Emergency, Alert, or Notification of Unusual Event.

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EVENT NOTIFICATION WORKSHEET
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B. (continued)

<u>NOTE</u> No other blocks in the upper half of the form are required.

9. Description - provide a written description of the event.

<u>NOTE</u> Check the blocks in the lower portion of the form based on current conditions.
--

10. Mode of operation until corrected - provided if known.
11. Estimate for restart date - enter "unknown".
12. Additional info on Page 2 - enter yes or no.

C. Reactor Plant Event Notification Worksheet, Page 2

1. Fill in as much of the information on the form as is immediately available - do not create undue delay in making the notification. This information can be gained once the open line of communication is established.

D. Approval

1. Information entered on the worksheet shall be reviewed and approved by the EC or RM (if used in the EOF), prior to transmission.
2. The EC / RM may initial on the worksheet to indicate approval. There is no formal sign-off location on the worksheet.

END OF ATTACHMENT 3A

**FPL**

ST. LUCIE PLANT

EMERGENCY PLAN IMPLEMENTING PROCEDURE

SAFETY RELATED

Procedure No.

EPIP-01

Current Revision No.

7

Effective Date

06/29/04

Title:

CLASSIFICATION OF EMERGENCIES

Responsible Department: **EMERGENCY PLANNING**

REVISION SUMMARY:

Revision 7 – Incorporated PCR #04-2011 to incorporate instructions from NRC Safe Guards Advisory for Operating Power Reactors, SA-04-07. (J. R. Walker, 06/28/04)

Revision 6 – Incorporated PCR #03-0403 to delete wording regarding technical specification limits and correctly place symbols. (J. R. Walker, 02/21/03)

Revision 5 – Clarified EALs under alert. (J. R. Walker, 07/25/02)

Revision 4 - Revised IAW revision to E-Plan (R40). Revised initiating condition for RCS leakage. Added EALs under security threat initiating condition. Added definitions for EAL and IC. Added guidance for multiple and dual unit events. Made editorial and administrative changes. (J.R. Walker, 05/23/02)

Revision 3 - Added PMAI references, added definitions for OCA, PA and power block, clarified classification guidance and made editorial/administrative changes. (J. R. Walker, 02/09/01)

Revision 2 - Clarified initiating conditions and emergency action levels to correspond to changes in the PSL emergency plan in accordance with PMAI PM99-09-154, defined classification table and made editorial changes. (J. R. Walker, 10/13/00)

Revision 1 - Revised to RCS EAL for alert based on NESP007 guidance. (J. R. Walker, 04/21/00)

Revision 0	FRG Review Date 12/15/97	Approved By J. Scarola Plant General Manager	Approval Date 12/15/97	S__OPS
Revision 7	FRG Review Date 06/25/04	Approved By G. L. Johnston Plant General Manager N/A Designated Approver N/A Designated Approver (Minor Correction)	Approval Date 06/28/04	DATE DOCT DOCN SYS COM ITM
				PROCEDURE EPIP-01 COMPLETED 7

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1.0 PURPOSE

This procedure provides instructions on the classification of emergencies at St. Lucie Plant.

Emergency classifications in order of increasing seriousness are:

- Unusual Event
- Alert
- Site Area Emergency
- General Emergency

Specific criteria are provided to assure proper escalation and de-escalation between emergency classification levels.

2.0 REFERENCES / RECORDS REQUIRED / COMMITMENT DOCUMENTS

NOTE

One or more of the following symbols may be used in this procedure:

§ Indicates a Regulatory commitment made by Technical Specifications, Condition of License, Audit, LER, Bulletin, Operating Experience, License Renewal, etc. and shall NOT be revised without Facility Review Group review and Plant General Manager approval.

¶ Indicates a management directive, vendor recommendation, plant practice or other non-regulatory commitment that should NOT be revised without consultation with the plant staff.

Ψ Indicates a step that requires a sign off on an attachment.

2.1 References

1. St. Lucie Plant Radiological Emergency Plan (E-Plan)
2. E-Plan Implementing Procedures (EPIP 00-13)
3. C-200, Offsite Dose Calculation Manual (ODCM)
4. AP 0010502, Oil and Hazardous Material Emergency Response Plan
5. ¶₁ NUREG-1022, Section 3.1.1

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2.1 References (continued)

6. ¶₂ NRC IEN No. 85-80, Timely Declaration of an Emergency Class, Implementation of an Emergency Plan, and Emergency Notifications, October 15, 1985
7. ¶₃ NRC EPPOS No. 2, Emergency Preparedness Position (EPPOS) on Timeliness of Classification of Emergency Conditions, August, 1995
8. ¶₄ PMAI PM98-01-017, Loss of Seismic Monitoring Capability

2.2 Records Required

The basis for classifying an emergency condition shall be recorded in appropriate emergency logs.

2.3 Commitment Documents

- §₁ CR 00-0614 (RCS leakage during shutdown cooling)
- §₂ PMAI PM99-09-154 (IC and EAL changes submitted under FPL letter L-98-2000)
- ¶₅ NRC Safeguards Advisory for Operating Power Reactors, SA-04-07

3.0 RESPONSIBILITIES

3.1 Shift Manager (SM)

1. The Shift Manager is responsible to promptly classify abnormal situations into one of the four defined categories.
2. If an emergency has been declared, the Shift Manager is responsible for assuming the position of Emergency Coordinator and retaining this position until relieved.

3.2 Emergency Coordinator (EC)

The Emergency Coordinator is responsible to continually evaluate changes in plant conditions against the classification table in this procedure.

/K/

/K/ /K/

/K/

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4.0 DEFINITIONS

4.1 Emergency Action Level (EAL)

- 1.** A pre-determined, site-specific, observable threshold for a plant Initiating Condition that places the plant in a given emergency class. An EAL can be: an instrument reading; an equipment status indicator; a measurable parameter (on-site or off-site); a discrete, observable event; results of analyses; entry into specific emergency operating procedures; or another phenomenon which, if it occurs, indicates entry into a particular emergency class.

4.2 Emergency Classes

1. Unusual Event

This classification is represented by off-normal events or conditions at the plant for which no significant degradation of the level of safety of the plant has occurred or is expected. Any releases of radioactive material which may have occurred or which may be expected are minor and constitute no appreciable health hazard.

2. Alert

This classification is represented by events which involve an actual or potential substantial degradation of the level of safety of the plant combined with a potential for limited uncontrolled releases of radioactivity from the plant.

3. Site Area Emergency

This classification is composed of events which involve actual or likely major failures of plant functions needed for protection of the public combined with a potential for significant uncontrolled releases of radioactivity from the plant.

4. General Emergency

This classification is composed of events which involve actual or imminent substantial core degradation and potential loss of containment integrity combined with a likelihood of significant uncontrolled releases of radioactivity from the plant.

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4.3 Classification Table

A composite of Initiating Conditions (ICs) and their Emergency Action Levels (EALs) used to evaluate off normal/emergency conditions resulting in declaration of one of the four Emergency Classes, as appropriate. The Table is arranged in the following categories:

- 1. Events Affecting Primary Pressure**
 - A. Abnormal Primary Leak Rate**
 - B. Abnormal Primary/Secondary Leak Rate**
 - C. Loss of Secondary Coolant**
- 2. Abnormal Radiation, Contamination and Effluent Releases**
 - A. Uncontrolled Effluent Release**
 - B. High Radiation Levels in Plant**
- 3. Fires, Explosions**
- 4. Accident Involving Fuel**
 - A. Fuel Element Failure**
 - B. Fuel Handling**
- 5. Natural Emergencies**
 - A. Earthquake**
 - B. Hurricane**
 - C. Tornado**
 - D. Abnormal Water Level**
- 6. Miscellaneous Events**
 - A. Increased Awareness or Potential Core Melt**
- 7. Electrical Malfunctions**
 - A. Loss of Power**

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4.3 Classification Table (continued)

8. Degradation of Control Capabilities
 - A. Loss of Plant Control Functions
 - B. Loss of Alarms, Communications, Monitoring
9. Hazards to Station Operation
 - A. Aircraft, Missile
 - B. Turbine Failure
 - C. Toxic or Flammable Gas
10. Security Threat

4.4 Initiating Condition (IC)

1. One of a predetermined subset of nuclear power plant conditions where either the potential exists for a radiological emergency, or such an emergency has occurred.

4.5 Plant - The St. Lucie Plant, Unit 1 and Unit 2

4.6 Site - A general term referring to the location of the St. Lucie Nuclear Power Plant. Other terms related to the site are given below:

1. **Owner Controlled Area** - That portion of FPL property surrounding and including the St. Lucie Nuclear Power Plant which is subject to limited access and control as deemed appropriate by FPL.
2. **Protected Area** - The area (within the Owner Controlled Area) occupied by the nuclear units and associated equipment and facilities enclosed with the security perimeter fence. The area within which accountability of personnel is maintained in an emergency.

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4.6 Site (continued)

3. §2 **Power Block** - Structures, systems or components in the areas listed below that support the production of power. This includes any equipment needed for the direct generation of power or necessary for safe operation and/or shutdown of one or both of the reactors.

- A. Reactor Containment and Shield Buildings
- B. Reactor Auxiliary Buildings including the following areas:
 - 1. Refueling Water Tank (RWT)
 - 2. Component Cooling Water (CCW) platform area
 - 3. Diesel Generator Buildings and Fuel Oil Storage Tanks
 - 4. Fuel Handling Building
 - 5. Primary Water Tank and Pumps
- C. Intake Area
- D. Discharge Canal & Headwall
- E. Ultimate Heat Sink Structure
- F. Fire Protection System including the fire pumps and the City Water Storage Tanks (CWST), but not including parts of the system associated with the North or South Service Buildings or other outlying facilities.
- G. Turbine Buildings (all levels)
- H. Condensate Storage Tanks (CST)
- I. Main, Auxiliary and Startup Transformers
- J. Steam Trestles
- K. Turbine Lube Oil Storage Tanks
- L. Gas House

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5.0 INSTRUCTIONS

5.1 Direct Initial Investigative and Mitigating Actions to Address the Event

1. If the event involves entry into the Off-Normal Operating Procedures (ONOPs) or Emergency Operating Procedures (EOPs), Then perform steps per ONOPs or EOPs until appropriate or directed to classify event.
2. If the event involves a release of hazardous materials to the environment, Then respond per AP 0010502, Oil and Hazardous Material Emergency Response Plan.
3. If the event involves a release of radioactive material to the environment, Then direct Chemistry personnel to implement EPIP-09, Off-site Dose Calculations.

END OF SECTION 5.1

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NOTE

Initiating Conditions / Emergency Action Levels are applicable to all modes unless otherwise indicated.

5.2 Classifying the Event

1. ¶₃ A goal of fifteen (15) minutes should be used for assessing and classifying an emergency once indications (Emergency Action Levels (EALs)) are available to Control Room Operators that an Initiating Condition (IC) has been met and/or exceeded.
 - A. This goal should allow time for determination of indications (leak rate, etc.) and detailed review of Attachment 1, Emergency Classification Table.
2. Use the best information available when working through the Emergency Classification Table. When confronted with conflicting information for which resolution is not apparent, classify the condition at the highest appropriate emergency class.
3. If, in the judgement of the Shift Manager (SM) /Emergency Coordinator (EC), a situation is more serious than indicated by instrument readings or other parameters, Then classify the emergency condition at the more serious level (i.e., at the highest appropriate emergency class).
4. ¶₅ Security Event

If the Control Room is contacted by any of the following: Security, NRC, FBI or NORAD that a terrorist attack on the plant site is imminent or is occurring, Then perform the actions in the applicable Appendix to Security Force Instruction (SFI) #4, Appendix C, Unit 1 Operations Department Recommended Defensive Strategy or Appendix D, Unit 2 Operations Department Recommended Defensive Strategy.
5. Multiple and Dual Unit Events

CAUTION

There can not be two concurrent declared emergency classes under the St. Lucie Plant Radiological Emergency Plan.

- A. If one Unit is in a classified event and the same or the other Unit enters into an event where the same or lesser Emergency Class would apply, Then a new classification should NOT be declared. The event should be documented on a SNF as "Additional Information or Update" and issued as soon as practicable.

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5.2 Classifying the Event (continued)

5. (continued)

B. If one Unit is in a classified event and the other Unit enters into a more severe event in which a higher Emergency Class would apply, Then the new classification shall be declared and promptly, within the regulatory time limits, issued to the State, Counties and the NRC.

6. ¶₂ If an EAL was met and the condition completely cleared prior to an emergency classification being declared, Then:

A. Classify the event in accordance with Attachment 1.

B. Termination of the event

1. An event classified as an Unusual Event or Alert may be terminated at the time of declaration by the EC.

2. An event classified as a Site Area Emergency or General Emergency may only be downgraded and/or terminated by the Recovery Manager (RM).

END OF SECTION 5.2

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5.3 §1 ¶1 Classification of An Event Based On Subsequent Information

1. If subsequent information of a more detailed nature (e.g., sampling results) becomes available after the initial classification has been made, Then reclassify as appropriate.
2. If results of a protracted review (i.e., Engineering Evaluation, CR disposition, etc.) of an event indicate that conditions were met for an Emergency Classification, and the condition has completely cleared prior to recognition of possible classification, Then notify NRC within one hour of discovery of the undeclared event.
 - A. Contact Emergency Preparedness for briefing of state and local agencies.

END OF SECTION 5.3

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CAUTION
§2 Section 1.A should not be used for a steam generator tube leak / rupture.

EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
1.A. <u>ABNORMAL PRIMARY LEAK RATE</u> (Page 1 of 2)	<u>Reactor Coolant System (RCS) Leakage</u> 1. RCS leakage GREATER THAN 10 gpm as indicated by: A. Control Room observation OR B. Inventory balance calculation OR C. Field observation OR D. Emergency Coordinator judgement OR 2. Indication of leaking RCS safety or relief valve which causes RCS pressure to drop below setpoints: - Unit 1 - 1600 psia - Unit 2 - 1736 psia	§: <u>RCS Leakage GREATER THAN 50 gpm</u> 1. Unisolable RCS leakage as indicated by Charging/letdown mismatch greater than 50 gpm but less than available charging pump capacity. OR 2. Unisolable measured RCS leakage indicating greater than 50 gpm but less than available charging pump capacity.	<u>LOCA GREATER THAN</u> capacity of charging pumps 1. RCS leakage greater than available charging pump capacity occurring with RCS pressure above HPSI shutoff head. OR 2. RCS leakage greater than available makeup occurring with RCS pressure below HPSI shutoff head. OR 3. Loss of RCS subcooled margin due to RCS leakage (saturated conditions). OR 4. Containment High Range Radiation Monitors indicate 7.3×10^3 R/hr (If CHRRM inoperable, Post-LOCA monitors indicate between 100 and 1000 mR/hr).	<u>A release has occurred or is in progress resulting in:</u> 1. Containment High Range Radiation monitor greater than 1.46×10^5 R/hr (If CHRRM inoperable, Post-LOCA monitors greater than 1000 mR/hr). OR 2. Performance of EPIP-09 (Off-site Dose Calculations) or measured dose rates from off-site surveys indicate site boundary (1 mile) exposure levels have been exceeded as indicated by either A, B, C or D below: A. 1000 mrem/hr (total dose rate) B. 1000 mrem (total dose - TEDE) C. 5000 mrem/hr (thyroid dose rate) D. 5000 mrem (thyroid dose - CDE)

1.A. ABNORMAL PRIMARY LEAK RATE

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EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
1.A. <u>ABNORMAL PRIMARY LEAK RATE</u> (Page 2 of 2)				<u>Loss of 2 of the 3 fission product barriers with imminent loss of the third (any two of the following exist and the third is imminent).</u> 1. Fuel element failure (confirmed DEQ I-131 activity greater than 275 $\mu\text{Ci/mL}$). <u>AND</u> 2. LOCA or Tube rupture on unisolable steam generator. <u>AND</u> 3. Containment Integrity Breached.
1.A. <u>ABNORMAL PRIMARY LEAK RATE</u>				<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">NOTE</p> <p>Also refer to Potential Core Melt Event / Class 6.A.</p> </div>

AFTER CLASSIFYING, GO TO EPIP-02, DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR

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EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
1.B. <u>ABNORMAL PRIMARY TO SECONDARY LEAK RATE</u> (Page 1 of 2)	<u>RCS PRI/SEC Leakage</u> 1. Measured RCS to secondary leakage exceeds Tech. Spec. limits. <p style="text-align: center;"><u>AND</u></p> 2. Secondary plant activity is detected.	<u>Rapid gross failure of one steam generator tube (WITHIN charging pump capacity) with loss of offsite power</u> 1. Measured RCS to secondary leakage greater than Tech. Spec. Limits and within charging pump capacity. <p style="text-align: center;"><u>AND</u></p> 2. Secondary plant activity is detected. <p style="text-align: center;"><u>AND</u></p> 3. Loss of both Non-Vital 4.16 KV buses.	<u>Rapid gross failure of steam generator tubes (GREATER THAN charging pump capacity) with a loss of offsite power</u> 1. Measured RCS to secondary leakage is greater than charging pump capacity. <p style="text-align: center;"><u>AND</u></p> 2. Secondary plant activity is detected. <p style="text-align: center;"><u>AND</u></p> 3. Loss of both Non-Vital 4.16 KV buses.	<u>Loss of 2 of the 3 fission product barriers with imminent loss of the third (any two of the following exist and the third is imminent).</u> 1. Fuel element failure (confirmed DEQ I-131 activity greater than 275 μ Ci/mL). <p style="text-align: center;"><u>AND</u></p> 2. LOCA or Tube rupture on unisolable steam generator. <p style="text-align: center;"><u>AND</u></p> 3. Containment integrity breached.
		(continued on next page)	(continued on next page)	

NOTE
Also refer to Potential Core Melt Event/Class 6.A.

1.B. ABNORMAL
PRIMARY TO
SECONDARY LEAK
RATE

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EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
1.B. <u>ABNORMAL</u> <u>PRIMARY TO</u> <u>SECONDARY LEAK</u> <u>RATE</u> (Page 2 of 2)		<u>Rapid failure of steam generator</u> <u>tubes (GREATER THAN charging</u> <u>pump capacity)</u> 1. Measured RCS to secondary leakage greater than charging pump capacity. <u>AND</u> 2. Secondary plant activity is detected.	§2 <u>Rapid failure of steam generator</u> <u>tube(s) (GREATER THAN charging</u> <u>pump capacity) with steam release in</u> <u>progress</u> 1. Measured RCS to secondary leakage greater than charging pump capacity. <u>AND</u> 2. Secondary plant activity is detected. <u>AND</u> 3. Secondary steam release in progress from affected generator (i.e., ADVs, stuck steam safety(s) or unisolable leak.)	
1.B. <u>ABNORMAL</u> <u>PRIMARY TO</u> <u>SECONDARY LEAK</u> <u>RATE</u>				

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EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
1.C. <u>LOSS OF SECONDARY COOLANT</u> (Page 1 of 2)	<u>Rapid depressurization of secondary plant</u> 1. Rapid drop in either steam generator pressure to less than 600 psia.	<u>Major steam leak with GREATER THAN 10 gpm primary/secondary leakage</u> 1. Rapid drop in either steam generator pressure to less than 600 psia. <u>AND</u> 2. Known pri/sec leak of greater than 10 gpm. <u>AND</u> 3. Secondary plant activity is detected. <hr/> <u>Total loss of feedwater</u> 1. No main or auxiliary feedwater flow available for greater than 15 minutes when required for heat removal. <u>AND</u> 2. Steam Generator levels are less than 40% wide range.	<u>Major steam leak with GREATER THAN 50 gpm primary/secondary leakage and fuel damage indicated</u> 1. Rapid drop in either steam generator pressure to less than 600 psia. <u>AND</u> 2. Known pri/sec leak of greater than 50 gpm. <u>AND</u> 3. Secondary plant activity is detected. <u>AND</u> 4. Fuel element damage is indicated (Refer to Fuel Element Failure Event/Class 4.A). <hr/> <u>TLOF with once-through cooling initiated</u> 1. No main or auxiliary feedwater flow available. <u>AND</u> 2. PORV(s) have been opened to facilitate core heat removal.	<u>A release has occurred or is in progress resulting in:</u> 1. Containment High Range Radiation monitor greater than 1.46×10^5 R/hr (If CHRRM inoperable, Post-LOCA monitors greater than 1000 mR/hr). <u>OR</u> 2. Performance of EPIP-09 (Off-site Dose Calculations) or measured dose rates from off-site surveys indicate site boundary (1 mile) exposure levels have been exceeded as indicated by either A, B, C or D below: A. 1000 mrem/hr (total dose rate) B. 1000 mrem (total dose - TEDE) C. 5000 mrem/hr (thyroid dose rate) D. 5000 mrem (thyroid dose-CDE) (continued on next page)
1.C. <u>LOSS OF SECONDARY COOLANT</u>				

AFTER CLASSIFYING, GO TO EPIP-02, DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR

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EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
1.C. <u>LOSS OF SECONDARY COOLANT</u> (Page 2 of 2)				<p><u>Loss of 2 of the 3 fission product barriers with imminent loss of the third (any two of the following exist and the third is imminent).</u></p> <ol style="list-style-type: none"> 1. Fuel element failure (confirmed DEQ I-131 activity greater than 275 µCi/mL). <u>AND</u> 2. LOCA or Tube rupture on unisolable steam generator. <u>AND</u> 3. Containment Integrity Breached. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;"><u>NOTE</u></p> <p>Also refer to Potential Core Melt Event/Class 6.A.</p> </div>
1.C. <u>LOSS OF SECONDARY COOLANT</u>				

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EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
2.A. <u>UNCONTROLLED EFFLUENT RELEASE</u>	<u>Radiological effluent limits exceeded</u> 1. Plant effluent monitor(s) exceed alarm setpoint(s). AND 2. Confirmed analysis results for gaseous or liquid release which exceeds ODCM limits.	<u>A release has occurred or is in progress that is 10 times the effluent limit</u> 1. Plant effluent monitor(s) significantly exceed alarm setpoints. AND 2. Confirmed analysis results for gaseous or liquid release which exceeds <u>10 times ODCM limits</u> .	<u>A release has occurred or is in progress resulting in:</u> 1. Containment High Range Radiation Monitor greater than 7.3×10^3 R/hr (Post-LOCA monitors indicate between 100 and 1000 mR/hr, if CHRRM inoperable). OR 2. Measured Dose Rates or Offsite Dose Calculation (EPIP-09) worksheet values at one mile in excess of: A. 50 mrem/hr (total dose rate) or 250 mrem/hr (thyroid dose rate) for 1/2 hour. OR B. 500 mrem/hr (total dose rate) or 2500 mrem/hr (thyroid dose rate) for two minutes at one mile.	<u>A release has occurred or is in progress resulting in:</u> 1. Containment High Range Radiation monitor greater than 1.46×10^5 R/hr (If CHRRM inoperable, Post-LOCA monitors greater than 1000 mR/hr). OR 2. Performance of EPIP-09 (Off-site Dose Calculations) or measured dose rates from off-site surveys indicate site boundary (1 mile) exposure levels have been exceeded as indicated by either A, B, C or D below: A. 1000 mrem/hr (total dose rate) B. 1000 mrem (total dose - TEDE) C. 5000 mrem/hr (thyroid dose rate) D. 5000 mrem (thyroid dose-CDE)
	NOTE If analysis is not available within one hour and it is expected that release is greater than ODCM limit, classify as <u>UNUSUAL EVENT</u> .	NOTE If analysis is not available within one hour and it is expected that release is equal to or greater than <u>10 times ODCM limit</u> , classify as <u>ALERT</u> .		

ODCM - refers to Chemistry Procedure C-200, Offsite Dose Calculation Manual (ODCM)

2.A. UNCONTROLLED EFFLUENT RELEASE

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2.B. <u>HIGH RADIATION LEVELS IN PLANT</u>		<p><u>High radiation levels or high airborne contamination which indicates a severe degradation in the control of radioactive materials</u></p> <ol style="list-style-type: none"> Any valid area monitor alarm from an unplanned source with meter near or greater than full scale deflection (10^3 mR/hr). <u>OR</u> Unexpected plant iodine or particulate airborne concentration of 1000 DAC as seen in routine surveying or sampling. <u>OR</u> Unexpected direct radiation dose rate reading or unexpected airborne radioactivity concentration from an unplanned source in excess of 1000 times normal levels. 		
2.B. <u>HIGH RADIATION LEVELS IN PLANT</u>				

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EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
4.A. <u>FUEL ELEMENT FAILURE</u>	<u>Fuel element damage</u> 1. Process monitors or area radiation surveys indicate increased letdown activity AND 2. Confirmed RCS sample indicating: A. Coolant activity greater than the Tech Spec limit for iodine spike (Tech Spec Figure 3.4-1.). OR B. Coolant activity greater than 100/£ µCi/gram specific activity.	<u>Fuel element failure</u> 1. Process monitors or area radiation surveys indicate increased letdown activity and confirmed RCS Samples indicating DEQ I-131 activity greater than or equal to 275 µCi/mL.	<u>Fuel element failure with inadequate core cooling</u> 1. RCS DEQ I-131 activity greater than or equal to 275 µCi/mL. AND 2. Highest CET per core quadrant indicates greater than 10°F superheat or 700°F.	<u>A release has occurred or is in progress resulting in:</u> 1. Containment High Range Radiation monitor greater than 1.46 X 10 ⁵ R/hr (If CHRRM inoperable, Post-LOCA monitors greater than 1000 mR/hr). OR 2. Performance of EPIP-09 (Off-site Dose Calculations) or measured dose rates from off-site surveys indicate site boundary (1 mile) exposure levels have been exceeded as indicated by either A, B, C or D below: A. 1000 mrem/hr (total dose rate) B. 1000 mrem (total dose - TEDE) C. 5000 mrem/hr (thyroid dose rate) D. 5000 mrem (thyroid dose - CDE)
	<div style="border: 1px solid black; padding: 5px;"> <p align="center"><u>NOTE</u></p> <p>If analysis is not available within one hour and it is expected that activity is greater than Tech Spec limit, classify as <u>UNUSUAL EVENT</u>.</p> </div>	<div style="border: 1px solid black; padding: 5px;"> <p align="center"><u>NOTE</u></p> <p>If analysis is not available within one hour and it is expected that RCS activity for DEQ I-131 is greater than 275 µCi/mL, classify as an <u>ALERT</u>.</p> </div>		

4.A FUEL ELEMENT FAILURE

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EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
4.B. <u>FUEL HANDLING ACCIDENT</u>		<u>Fuel handling accident which results in the release of radioactivity to Containment or Fuel Handling Building:</u> 1. SM/EC determines that an irradiated fuel assembly may have been damaged. AND 2. Associated area or process radiation monitors are in alarm.	§2 <u>Major damage to Irradiated fuel in Containment or Fuel Handling Building</u> 1. Affected area radiation monitor greater than 1000 mrem/hr. AND 2. Damage to more than one irradiated fuel assembly. OR Major damage resulting from uncovering of one or more irradiated fuel assemblies in the Spent Fuel Pool.	

4.B. FUEL HANDLING ACCIDENT

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EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
5.A. <u>EARTHQUAKE</u>	<p>§2 <u>A confirmed earthquake has occurred</u></p> <ol style="list-style-type: none"> 1. A confirmed earthquake has been experienced within the Owner Controlled Area. 2. <u>OR</u> An earthquake is detected by plant seismic monitor instruments or other means. 	<p>§2 <u>A confirmed earthquake has occurred.</u></p> <ol style="list-style-type: none"> 1. A confirmed earthquake has occurred which registered GREATER THAN 0.05g within the Owner Controlled Area. 2. <u>OR</u> A confirmed earthquake has occurred that could or has caused trip of the turbine generator or reactor. 	<p>§2 <u>A confirmed earthquake has occurred.</u></p> <ol style="list-style-type: none"> 1. A confirmed earthquake has occurred which registered GREATER THAN 0.1g within the Owner Controlled Area and the plant not in Cold Shutdown. 2. <u>OR</u> A confirmed earthquake has occurred that has caused loss of any safety system function (e.g., both trains inoperable). 	<div> <p align="center">NOTE</p> <p>Refer to Potential Core Melt Event / Class 6.A.</p> </div>
5.B. <u>HURRICANE</u>	<p><u>Hurricane Warning</u></p> <ol style="list-style-type: none"> 1. Confirmed hurricane warning is in effect. 	<p><u>Hurricane warning with winds near design basis</u></p> <ol style="list-style-type: none"> 1. Confirmed hurricane warning is in effect and winds are expected to exceed 175 mph within the Owner Controlled Area. 	<p><u>Hurricane warning with winds GREATER THAN design basis</u></p> <ol style="list-style-type: none"> 1. Plant not at cold shutdown. 2. <u>AND</u> Confirmed hurricane warning is in effect and winds are expected to exceed 194 mph within the Owner Controlled Area. 	<div> <p align="center">NOTE</p> <p>Refer to Potential Core Melt Event / Class 6.A.</p> </div>
5.A. <u>EARTHQUAKE</u> 5.B. <u>HURRICANE</u>		<div> <p align="center">NOTE</p> <p>At FPL's request, NOAA will provide an accurate projection of wind speeds onsite 24 hours prior to the onset of hurricane force winds. If that projection is not available within 12 hours of entering into the warning, classify the event using current track and wind speeds to project onsite conditions. For example, projected onsite wind speed would be less than maximum hurricane wind speed if the track is away from PSL.</p> </div>	<div> <p align="center">NOTE</p> <p>At FPL's request, NOAA will provide an accurate projection of wind speeds onsite 24 hours prior to the onset of hurricane force winds. If that projection is not available within 12 hours of entering into the warning, classify the event using current track and wind speeds to project onsite conditions. For example, projected onsite wind speed would be less than maximum hurricane wind speed if the track is away from PSL.</p> </div>	

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EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
5.C. <u>TORNADO</u>	<u>Notification of a tornado sighted in the Owner Controlled Area</u>	§2 <u>Any tornado striking the Power Block.</u>		<div> NOTE Refer to Potential Core Melt Event / Class 6.A. </div>
5.D. <u>ABNORMAL WATER LEVEL</u>	<u>Abnormal water level conditions are expected or occurring</u> 1. Low intake canal level of -10.5 ft. MLW for 1 hour or more. <u>OR</u> 2. Visual sightings by station personnel that water levels are approaching storm drain system capacity.	<u>Flood, low water, hurricane surge or other abnormal water level conditions</u> 1. The storm drain capacity is exceeded during hurricane surge or known flood conditions. <u>OR</u> 2. Low intake canal level of -10.5 ft. MLW for 1 hour or more with emergency barrier valves open.	<u>Flood, low water, hurricane surge or other abnormal water level conditions causing failure of vital equipment</u> 1. Flood/surge water level reaching elevation +19.5 ft. (turbine building / RAB ground floor). <u>OR</u> 2. Low intake canal level has caused the loss of all ICW flow.	
5.C. <u>TORNADO</u>				
5.D. <u>ABNORMAL WATER LEVEL</u>				

AFTER CLASSIFYING, GO TO EPIP-02, DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR

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NOTE
 Activation of the Emergency Response Facilities does not require declaration of an emergency or entry into a specific emergency classification.

EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
6.A. <u>INCREASED AWARENESS OR POTENTIAL CORE MELT</u> (Page 1 of 2)	<p><u>Emergency Coordinator's judgement that plant conditions exist which warrant increased awareness on the part of the operating staff and/or local authorities.</u></p> <p>1. The plant is shutdown under abnormal conditions (e.g., exceeding cooldown rates or primary system pipe cracks are found during operation). <u>OR</u> 2. Any plant shutdown required by Technical Specifications in which the required shutdown is not reached within action limits.</p>	<p><u>§2 Emergency Coordinator's judgement that plant conditions exist which have a potential to degrade the level of safety at the plant.</u></p>	<p><u>§2 Emergency Coordinator's judgement that plant conditions exist which are significantly degrading in an uncontrollable manner.</u></p>	<p><u>§2 Emergency Coordinator's judgement that plant conditions exist that make release of large amounts of radioactivity in a short period appear possible or likely. (Any core melt situation.)</u></p> <p>1. LOCA with failure of ECCS leading to severe core degradation or melt. <u>OR</u> 2. LOCA with initially successful ECCS and subsequent failure of containment heat removal systems for greater than 2 hours. <u>OR</u> 3. Total loss of feedwater followed by failure of once-through-cooling (ECCS) to adequately cool the core. <u>OR</u> 4. Failure of off-site and on-site power along with total loss of feedwater makeup capability for greater than 2 hours. <u>OR</u> 5. ATWS occurs which results in core damage or causes failure of core cooling and make-up systems. <u>OR</u> 6. Any major internal or external event (e.g., fire, earthquake or tornado substantially beyond design basis) which in the ECs opinion has or could cause massive damage to plant systems resulting in any of the above.</p>
6.A. <u>INCREASED AWARENESS OR POTENTIAL CORE MELT</u>				(continued on next page)

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EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
6.A. <u>INCREASED AWARENESS OR POTENTIAL CORE MELT</u> (Page 2 of 2)				<div> NOTES 1. Most likely containment failure mode is melt-through with release of gases only. Quicker releases are expected for failure of containment isolation system. 2. General Emergency must be declared for the above listed events. The likelihood of corrective action (repair of AFW pump, etc.) should not be considered. </div>
6.A. <u>INCREASED AWARENESS OR POTENTIAL CORE MELT</u>				

AFTER CLASSIFYING, GO TO EPIP-02, DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR

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EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
7.A. <u>LOSS OF POWER</u>	<u>Loss of off-site power or loss of all on-site AC power capability.</u> 1. Loss of off-site AC power. OR 2. Loss of capability to power at least one vital 4.16 kv bus from <u>any</u> available emergency diesel generator.	§2 <u>Station Blackout (Total Loss of AC)</u> 1. Loss of off-site AC power. AND 2. Failure of both emergency diesel generators to start or load. <hr/> <u>Loss of all on-site DC power</u> 1. Drop in A and B DC bus voltages to less than 70 VDC.	§2 <u>Station Blackout (Total Loss of AC) for GREATER THAN 15 minutes</u> 1. Loss of offsite AC power. AND 2. Sustained failure of both emergency diesel generators to start or load. AND 3. Failure to restore AC power to at least one vital 4.16 kv bus within 15 minutes. <hr/> <u>Loss of all vital on-site DC for greater than 15 minutes</u> 1. Sustained drop in A and B DC bus voltages to 70 VDC for greater than 15 minutes.	<div style="border: 1px solid black; padding: 5px;"> NOTE Refer to Potential Core Melt Event / Class 6.A. </div>

7.A. LOSS OF POWER

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EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
8.A. <u>LOSS OF PLANT CONTROL FUNCTIONS</u>		<u>Loss of Plant Control Functions</u> 1. Complete loss of any function needed for plant cold shutdown. <u>OR</u> 2. Failure of the Reactor Protection System to bring the reactor subcritical when needed. <u>OR</u> 3. Control Room is evacuated (for other than drill purposes) with control established locally at the Hot Shutdown Control Panel.	<u>Critical Loss of Plant Control Functions</u> 1. Loss of any function or system which, in the opinion of the Emergency Coordinator, precludes placing the plant in Hot Shutdown. <u>OR</u> 2. Failure of the RPS to trip the reactor when needed and operator actions fail to bring the reactor subcritical. <u>OR</u> 3. Control Room is evacuated (for other than drill purposes) and control cannot be established locally at the Hot Shutdown Control Panel within 15 minutes.	<div> NOTE Refer to Potential Core Melt Event / Class 6.A. </div>
		<u>Loss of Shutdown Cooling</u> 1. Complete loss of functions needed to maintain cold shutdown. A. Failure of shutdown cooling systems, resulting in loss of cold shutdown conditions. <u>AND</u> B. RCS subcooling can NOT be maintained greater than 0°F.		
8.A. <u>LOSS OF PLANT CONTROL FUNCTIONS</u>				

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EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
8.B. <u>LOSS OF ALARMS / COMMUNICATION / MONITORING</u>	§2 <u>Significant loss of effluent monitoring capability, communications, indication and alarm panels, etc., which impairs ability to perform accident or emergency assessment.</u> 1. Loss of effluent or radiological monitoring capability requiring plant shutdown. <u>OR</u> 2. Loss of all primary and backup communication capability with offsite locations. <u>OR</u> 3. Unplanned loss of most (greater than 75%) or all Safety System annunciators for greater than 15 minutes.	§2 <u>Loss of alarms</u> 1. Unplanned loss of most (greater than 75%) or all safety system annunciators. <u>AND</u> 2. Plant transient in progress.	<u>Loss of alarms/monitoring</u> 1. Inability to monitor* a significant transient in progress.	

*Monitoring means loss of ERDADS, QSPDS and/or the inability to determine any one of the following: reactivity control, core cooling, RCS status or containment integrity.

8.B. LOSS OF ALARMS / COMMUNICATION / MONITORING

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EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
9.A. <u>AIRCRAFT / MISSILE</u>	<u>Unusual aircraft activity</u> 1. Aircraft crash in the Owner Controlled Area or unusual aircraft activity over facility that in the opinion of the SM/EC, could threaten the safety of the plant or personnel.	§2 <u>Aircraft/missile impact</u> 1. Aircraft crash into the Power Block. OR 2. Visual or audible indication of missile impact on the Power Block.	§2 <u>Damage to vital systems from aircraft/missiles</u> 1. Aircraft crash into the Power Block damaging vital plant systems. OR 2. Damage resulting in loss of safe shutdown equipment from any missile.	
9.B. <u>TURBINE FAILURE</u>	<u>Turbine rotating component failure causing rapid plant shutdown.</u>	<u>Visual indication that the turbine casing has been penetrated by blading.</u>		
9.C. <u>TOXIC OR FLAMMABLE GAS</u>	<u>Unplanned/uncontrolled toxic or flammable gas release in the Owner Controlled Area that could affect plant/personnel safety.</u>	<u>Entry of toxic or flammable gas into areas potentially affecting plant operation.</u>	§2 <u>Toxic or flammable gas has diffused into vital areas compromising the function of safety related equipment (e.g., both trains rendered inoperable).</u>	
9.A. <u>AIRCRAFT / MISSILE</u>				
9.B. <u>TURBINE FAILURE</u>				
9.C. <u>TOXIC OR FLAMMABLE GAS</u>				

AFTER CLASSIFYING, GO TO EPIP-02, DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR

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EVENT/CLASS	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
10. <u>SECURITY THREAT</u>	<u>A SECURITY ALERT has been called by the Security Force in response to one or more of the items listed below.</u> <ol style="list-style-type: none"> Bomb threat Attack threat Security threat Protected Area intrusion attempt Sabotage attempt Internal disturbance Civil disturbance Vital Area intrusion Security Force strike Credible site-specific Security threat notification 	<u>A SECURITY EMERGENCY has been called by the Security Force as defined in the Safeguards Contingency Plan.</u>	<u>A SECURITY EMERGENCY involving imminent occupancy of the control room or other area(s) vital to the operation of the reactor as defined in the Safeguards Contingency Plan.</u>	<u>A successful takeover of the plant including the Control Room or any other area(s) vital to the operation of the reactor (as per the Security Plan).</u>
10. <u>SECURITY THREAT</u>				

AFTER CLASSIFYING, GO TO EPIP-02, DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR

**FPL**

ST. LUCIE PLANT

EMERGENCY PLAN IMPLEMENTING PROCEDURE

SAFETY RELATED

Procedure No.

EPIP-08

Current Revision No.

6A

Effective Date

01/08/04

Title:

OFF-SITE NOTIFICATIONS AND PROTECTIVE ACTION RECOMMENDATIONS

Responsible Department: **EMERGENCY PLANNING****REVISION SUMMARY:**

Revision 6A - Incorporated PCR 03-3535 to put Attachment 2 in forms database. (M. Cooper, 12/10/03)

Revision 6 – Incorporated PCR 03-2272 for CR 03-2568 to revise State Notification form. Delete supplemental data sheet. Revise instructions for completing State form. Improve guidance relative to changing PARs (RIS 2003-12). (J.R. Walker, 08/29/03)

AND

Incorporated PCR 03-1637 for MA 03-04-082 to incorporate shift communicator position. (A. Terezakis, 08/06/03)

Revision 5 – Clarified duties, made editorial / administrative changes and removed local government radio. (J. R. Walker, 07/26/02)

Revision 4 – Clarified instructions regarding notification of rapidly degrading events. Clarified stability class instructions. Made administrative/editorial changes. (J.R. Walker, 10/11/01)

Revision 0	FRG Review Date 05/30/00	Approved By R. G. West Plant General Manager	Approval Date 05/31/00	S__OPS
Revision 6A	FRG Review Date 08/28/03	Approved By R.E. Rose Plant General Manager N/A Designated Approver D. Caiabrese Designated Approver (Minor Correction)	Approval Date 08/29/03 12/10/03	DATE DOCT DOCN SYS COM ITM
				PROCEDURE EPIP-08 COMPLETED 6A

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1.0 PURPOSE

1.1 Discussion

1. This procedure provides information and instructions for undertaking notifications of the State Warning Point (SWP) and the Nuclear Regulatory Commission (NRC) and for determination of Protective Action Recommendations (PARS).
2. This procedure is for use in the Control Room, Technical Support Center (TSC) and Emergency Operations Facility (EOF).
3. Upon declaration of an emergency classification the Nuclear Plant Supervisor (NPS) assumes the duties of the Emergency Coordinator (EC). The EC has initial responsibility for off-site notifications and PARS.
4. Once the EOF is operational and proper turnover has been conducted, the Recovery Manager (RM) assumes responsibility for off-site notifications and PARS from the EC.
5. At an Alert or higher level emergency, communications with the NRC transition to an open phone line from the TSC and the EOF (at a Site Area Emergency of higher level emergency).
6. The following table illustrates which facility has a responsibility for Classification, Notification or PARS.

	Control Room (X until EC function transfers to the TSC)	TSC (X when operational)	EOF (X when operational)
Classifications	X transfers →	X	
Notifications	X transfers →	X transfers →	X
PARs	X transfers →	X transfers →	X

7. Off-site Notification

A. Purpose of Off-Site Notifications

FPL is required to notify off-site agencies in the event of any emergency that could threaten the health and safety of the public. These notifications provide an early warning to agencies responsible for public protection.

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1.1 Discussion (continued)

7. (continued)

NOTE

The State Department of Health (Bureau of Radiation Control) may not have their office staffed on a 24-hour basis. In the event that they do not answer the Hot Ring Down (HRD) telephone, the State Warning Point (SWP) assumes responsibility for notifying their duty officer.

B. Who Shall Be Notified

- State Division of Emergency Management
 - State Department of Health (Bureau of Radiation Control)
 - St. Lucie County Emergency Operations Center
 - Martin County Emergency Operations Center
 - NRC
- 1. State and County Notification**
- a.** State and local agencies are notified by using the Hot Ring Down (HRD) telephone. The HRD rings the State Warning Point (SWP). The SWP puts the other agencies on line and reduces the need for individual calls.
 - b.** ¶4 After the State Coordinating Officer (SCO) arrives in the EOF, he / she can transfer "NET Control" to the EOF. When this occurs, the Recovery Manager's PAR Briefing becomes the primary notification method for the State and Counties. The Florida Nuclear Plant Emergency Notification Form (form similar to Attachment 1) shall still be completed and provided to the SCO or his / her designee in the EOF. The EOP HRD Communicator should no longer contact the State Warning Point (SWP).

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1.1 Discussion (continued)

7. B. (continued)

2. NRC Notification

a. The NRC is notified using the Emergency Notification System (ENS) telephone.

b. NRC notifications occur through an open line of communication in the TSC and, when operational, the EOF.

C. Emergency Follow-up Information Requests from State and local agencies.

1. Incoming calls should come via the SWP over the HRD phone. If the HRD is inoperable, the SWP may use commercial telephone or ESATCOM (emergency satellite phone). If an off-site authority contacts the plant without going through the SWP, request that they contact the SWP. SWP shall verify that the agency calling is a risk county or the Department of Health (DOH) and shall notify other county and state agencies of the updated information, thus reducing the number of calls that may be directed to the plant.

2. Long, detailed explanations of plant systems or reactor theory should be avoided. If prompted for this kind of information by the State Duty Officer, he / she should be referred to the Nuclear Division Duty Officer (NDDO).

3. If the State or one of the Counties provides either the TSC or EOF with new or pertinent information, Then bring that information to the attention of the EC or EC Assistant / Logkeeper in the TSC or the RM or the RM OPS Advisor / Logkeeper in the EOF.

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1.1 Discussion (continued)

8. Protective Action Recommendations

- A.** Protective actions for the general public are ordinarily NOT required prior to declaration of a General Emergency. It is possible however, that due to unusually stable and constant meteorological conditions, protective actions could be recommended at a Site Area Emergency based on projected doses. This is the exception rather than the rule.

Protective actions for the general public are required to be recommended if a General Emergency is declared. Initial Protective Action Recommendations (PARs) are normally based on plant conditions. This would NOT be true if the General Emergency was declared based on off-site dose (either measured or projected) or a Security Emergency (per the Security Plan). The predetermined minimum PARs (based on plant conditions) are as given below.

B. General Emergency - Minimum PARs

1. In any case where a GENERAL EMERGENCY has been declared, the minimum PAR shall be:

Shelter all people within a 2-mile radius and out to 5 miles in the sectors affected. The sectors affected are at least three, the downwind sector plus the two adjacent sectors.
2. If a GENERAL EMERGENCY has been declared due to actual or projected severe core damage, the minimum PAR shall be:

Evacuate all people within a 2-mile radius from the plant and out to 5 miles in the sectors affected. Shelter all people in the remaining sectors from 2 to 5 miles and from 5 to 10 miles from the plant.
3. If a GENERAL EMERGENCY has been declared due to loss of physical control of the plant to intruders, including the Control Room or any other area(s) vital to the operation of the reactor system (as defined in the Security Plan), the minimum PAR shall be:

Evacuate all people within a 2-mile radius from the plant and out to 5 miles in the sectors affected. Shelter all people in the remaining sectors from 2 to 5 miles and from 5 to 10 miles from the plant.

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1.1 Discussion (continued)

8. (continued)

- C.** Once a release of radioactive material occurs, dose assessment should be utilized when evaluating PARs. The final determination of the PAR should consider all available information including off-site dose projections, plant conditions and field monitoring data. The most conservative recommendation shall be made.
- D.** If it is anticipated that a PAR threshold will be exceeded, DO NOT wait until the threshold is exceeded to make that PAR.
- E.** ¶₁₂ Conditions (plant information, dose projections and field monitoring results) are to be continually assessed and PARs expanded, as necessary, to ensure that adequate (most conservative) PARs are issued.
- F.** ¶₁₂ Previously issued PARs, unless found to be less conservative, are to remain in effect until the threat is fully under control and the event is being de-escalated.
- G.** ¶₁₂ Only State and County officials can implement, change and/or terminate protective actions.

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2.0 REFERENCES / RECORDS REQUIRED / COMMITMENT DOCUMENTS

NOTE

One or more of the following symbols may be used in this procedure:

- § Indicates a Regulatory commitment made by Technical Specifications, Condition of License, Audit, LER, Bulletin, Operating Experience, License Renewal, etc. and shall NOT be revised without Facility Review Group review and Plant General Manager approval.
- ¶ Indicates a management directive, vendor recommendation, plant practice or other non-regulatory commitment that should NOT be revised without consultation with the plant staff.
- Ψ Indicates a step that requires a sign off on a data sheet.

2.1 References

1. St. Lucie Plant Updated Final Safety Analysis Report (UFSAR) Unit 1 and Unit 2
2. St. Lucie Plant Technical Specifications Unit 1 and Unit 2
3. §₁ St. Lucie Plant Radiological Emergency Plan (E-Plan)
4. E-Plan Implementing Procedures (EPIP 00 – 13)
5. St. Lucie Plant Emergency Response Directory (ERD)
6. QI-17-PSL-1, Quality Assurance Records

2.2 Records Required

1. All PAR worksheets and notifications forms (all attachments) shall be maintained in plant files in accordance with QI-17-PSL-1.

2.3 Commitment Documents

1. ¶₁ PMAI PM96-04-165, "ITR 96-006" (Unusual Event Declared Due to Dropped Rod)
2. ¶₂ PMAI PM96-09-185, Condition Report CR-96-1750 (Off-site Notification Using Commercial Phone)
3. ¶₃ NRC Inspection Report 91-01, Closure of IFIs 89-31-03 and 89-31-01
4. ¶₄ Condition Report CR-00-0428 (Evaluated Exercise Critique)

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2.3 Commitment Documents (continued)

- 5. ¶₆** PMAI PM96-05-233 (Off-site Notification Process)
- 6. ¶₇** PMAI PM99-09-016 (PARs Based on FMT Data, Completion of NRC Notification Form)
- 7. ¶₈** NUREG-1022, Event Reporting Guidelines 10 CFR 50.72 and 50.73, Section 4.2.4, ENS Event Notification Worksheet (NRC Form 361).
- 8. ¶₉** Condition Reports CR-01-0726 and CR-01-0742 (NOUEs Associated with SDC During SL1-17 Outage)
- 9. ¶₁₀** Condition Report CR-01-0389 (Alternate Met Data Source)
- 10. ¶₁₁** Condition Report CR-02-0333 (Role of Duty Call Supervisor)
- 11. ¶₁₂** Condition Report CR-03-2568 (Response to RIS 2003-12 Regarding PARs)

3.0 RESPONSIBILITIES

- 3.1** Emergency Coordinator – Responsible for classifications, notifications and PARs.
- 3.2** Recovery Manager – Responsible for notifications and PARs.
- 3.3 ¶₁₁** Duty Call Supervisor – Assists the EC as a phonetalker.
- 3.4** TSC EC Assistant / Logkeeper or TSC OPS Coordinator – Prepares notification forms (Attachment 1, Florida Nuclear Plant Emergency Notification Form, and if necessary, Attachment 3, NRC Reactor Plant Event Notification Worksheets) for EC approval when the TSC is operational.
- 3.5** EOF RM OPS Advisor / Logkeeper – Prepares notification forms (Attachment 1 and if necessary, Attachment 3) for RM approval when the EOF is operational.
- 3.6** TSC HRD Communicator – Assists the TSC EC Assistant / Logkeeper or TSC OPS Coordinator with notification form preparation and makes calls to complete notifications to the SWP.
- 3.7** EOF HRD Communicator – Assists the EOF RM OPS Advisor with form preparation and makes calls to complete notifications to the SWP and the SCO following transfer of Net Control by the Division of Emergency Management (DEM).

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<p>3.8 TSC Chemistry Supervisor (in his absence, TSC Dose Assessor) – Assists the EC with radiological dose assessment data and PARS.</p> <p>3.9 EOF HP Manager (in his absence, EOF Dose Assessor) – Assists the RM with radiological dose assessment data and PARS.</p> <p>3.10 TSC Supervisor – Oversees communications performed by the TSC Communicators (HRD, ENS, Health Physics Network (HPN), Sound-Powered Phonetalker, EOF and Field Monitoring Team).</p> <p>3.11 EOF Nuclear Licensing Manager – Oversees EOF communications performed by the EOF Communicators (HRD, ENS, HPN and TSC).</p> <p>3.12 Information Services – Maintains user copies, in the Unit 1 and Unit 2 Control Rooms, of the following checklist and supporting attachments for making notifications and developing Protective Action Recommendations:</p> <ul style="list-style-type: none"> • Appendix A, Notifications from the Affected Control Room • Attachment 1 – Florida Nuclear Plant Emergency Notification Form • Attachment 1A – Directions for Completing the Florida Nuclear Plant Emergency Notification Form • Attachment 2 – Determination of Protective Action Recommendations (PARs) • Attachment 3 – NRC Reactor Plant Event Notification Worksheet • Attachment 3A – Directions for Completing the NRC Reactor Plant Event Notification Worksheet <p>3.13 Shift Communicator – Assists the Nuclear Plant Supervisor/Emergency Coordinator in making emergency off-site notifications and performing other activities, as directed.</p>		

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<p>4.0 DEFINITIONS</p> <p>4.1 Conservative – Means more extensive or comprehensive action under a given set of circumstances to provide a greater measure of safety. For example, evacuation is more conservative than sheltering.</p> <p>4.2 Emergency – Any off-normal event or condition which is classified into one of the four emergency classes (Unusual Event, Alert, Site Area Emergency, or General Emergency) by the NPS in accordance with EPIP-01, Classification of Emergencies.</p> <p>4.3 Emergency Coordinator (EC) – The title initially assumed by the NPS, until relieved by plant management through proper turnover, in the event of plant conditions that trigger implementation of the Emergency Plan. The EC is responsible for notifying off-site authorities, emergency responders both inside and outside the company and has full authority and responsibility for on-site emergency response actions. The EC is also responsible for Protective Action Recommendations during the initial stages of an emergency.</p> <p>4.4 Florida Nuclear Plant Emergency Notification Form – A predetermined format used by nuclear power plants throughout the State for notification and local authorities.</p> <p>4.5 Operational (status for an emergency facility) – The mandatory minimum staff is present and the facility has taken responsibility for its procedurally assigned functions.</p> <p>4.6 Protective Action Recommendations (PARs) – Recommendations, for action instructions to protect the public, made by the Emergency Coordinator or Recovery Manager to State and County officials. FPL may recommend No Action, Sheltering or Evacuation.</p> <p>4.7 Recovery Manager (RM) – A designated company officer or senior manager, who will have responsibility for the direction and control of the EOF. He / she has the authority to establish policy and to expend funds necessary to cope with emergency situations that trigger the implementation of the Emergency Plan.</p> <p>4.8 Release (during any declared emergency)</p> <ol style="list-style-type: none"> Any effluent monitor increase of (approximately) 10 times or one decade above pre-transient values. <p style="text-align: center;">OR</p> <ol style="list-style-type: none"> Health Physics detecting airborne radioactivity levels in excess of 25% derived air concentration (DAC) outside of plant buildings due to failure of equipment associated with the declared emergency. 		

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- 4.9 Shift Communicator** – A specific shiftly designated individual trained and qualified to assist the Nuclear Plant Supervisor/Emergency Coordinator in the control room in making emergency off-site notifications, and performing other activities as directed.
- 4.10 State Notification Form (SNF)** – Less formal, more concise expression used in lieu of Florida Nuclear plant Emergency Notification Form.

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5.0 INSTRUCTIONS

5.1 State and County Notification

1. Time Limits

A. Notification shall be initiated within 15 minutes of any of the following:

- 1. Recognition of entry into the Emergency Plan.**
- 2. Escalation in Emergency Class.**
- 3. De-escalation of the Emergency Class.**
- 4. Protective Action Recommendation.**
- 5. Change in Protective Action Recommendation.**

B. Notification shall be initiated within 60 minutes of any of the following:

- 1. At an Alert or higher Emergency Class, the time of the last update (unless a different frequency has been agreed to by the off-site agencies as during a hurricane).**
- 2. A radiological release has been initiated.**
- 3. A radiological release has been terminated.**
- 4. A significant change in plant conditions has occurred (e.g., loss or restoration of off-site power or major plant equipment).**
- 5. Termination of the emergency.**

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5.1 State and County Notification (continued)

2. Forms Required for Notifications

CAUTION

Notifications require the use of a form similar to Attachment 1, Florida Nuclear Plant Emergency Notification Form.

- A.** Notifications with 15 minute time limits shall be made using a form similar to Attachment 1, Florida Nuclear Plant Emergency Notification Form.
- B.** Notifications with 60 minute time limits shall be made using a form similar to Attachment 1, Florida Nuclear Plant Emergency Notification Form.

3. Special instructions due to extraordinary circumstances.

- A.** If Emergency Class escalation is necessary due to rapidly degrading conditions, Then provide the State and County authorities with the initial notification information by transmitting lines 1-6, at a minimum, of the SNF and terminate the phone call by stating that a new notification form will be provided within 15 minutes.

CAUTION

There can not be two concurrent declared emergency classes under the St. Lucie Plant Radiological Emergency Plan.

- B.** If one Unit is in a classified event and the same or the other Unit enters into an event where the same or lesser Emergency Class would apply, Then a new classification should NOT be declared. The event should be documented on a SNF as "Additional Information or Update" and issued as soon as practicable.
- C.** If one Unit is in a classified event and the other Unit enters into a more severe event in which a higher Emergency Class would apply, Then the new classification shall be declared and promptly, within the regulatory time limits, issued to the State, Counties and the NRC.

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5.1 State and County Notification (continued)

4. ¶4 Transfer of NET Control

A. The State Coordinating Officer (SCO) can transfer the control of Hot Ring Down (HRD) NET from the State Warning Point (SWP) to the EOF. When this occurs;

1. The RM shall do face to face communication to satisfy off-site notification requirements for the State and Counties. Calls to the SWP are no longer necessary.
2. The Florida Nuclear Plant Emergency Notification Form (Attachment 1) shall continue to be filled out.
3. Completed notification forms are to be provided to the SCO or his / her designee in the EOF.

END OF SECTION 5.1

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5.2 Nuclear Regulatory Commission (NRC) Notification

1. Time Limits

NOTE

Notification of the NRC is expected immediately after notification of State and local agencies. The one-hour time limit in 10 CFR 50.72 (a)(3) is to ensure timely NRC notification in cases where notification of State and local agencies is delayed or prolonged.

- A. The licensee shall notify the NRC immediately after notification of the appropriate State or local agencies and not later than one hour after the time the licensee declares one of the Emergency Classes (10 CFR 50.72 (a)(3)).

2. Special Instructions

- A. Initial notification to the NRC using the Emergency Notification System (ENS) (usually done from the Control Room) should use Attachment 3, NRC Reactor Plant Event Notification Worksheet.
- B. At an Alert or higher emergency class, the NRC will want to establish an open line of communication with the Control Room, utilizing an ENS conference bridge tying in the licensee with NRC Headquarters and region personnel. Once the Technical Support Center (TSC) is operational, the Control Room should transfer responsibility for NRC communications to the TSC.
- C. The Emergency Operations Facility (EOF) should join the TSC on the ENS conference bridge and take the lead for NRC communications.
- D. The TSC and EOF should also utilize the Health Physics Network (HPN) line in a manner similar to the ENS (i.e., establish a conference bridge with the NRC).
- E. Both the ENS and HPN Communicators in both facilities should keep logs of information transmitted and received from the NRC in accordance with procedures.

END OF SECTION 5.2

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5.3 ¶₁ Erroneous Information

- 1.** If erroneous information is transmitted to off-site agencies and the error is discovered prior to event termination, a correction should be provided in an update. The need for and urgency of providing the update is dependent upon the importance of the error.
- 2.** If erroneous information is transmitted to off-site agencies and the error is discovered after event termination, the Licensing Department should be consulted to determine the need and method for contacting the off-site agencies with corrected information.

END OF SECTION 5.3

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APPENDIX A
NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM
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INITIAL

CAUTION

- §₁ Notification of State and local agencies shall be made as soon as practicable within 15 minutes of declaration of an Emergency Class.
- ¶₃ A new Florida Nuclear Plant Emergency Notification Form shall be completed for all updates.

NOTE

- ¶₉ 1. Completion of this checklist requires the following Attachments (all from EPIP-08):

Attachment 1 – Florida Nuclear Plant Emergency Notification Form

Attachment 1A – Directions for Completing the Florida Nuclear Plant Emergency Notification Form

Attachment 2 – Determination of Protective Action Recommendations (PARs)

Attachment 3 – NRC Reactor Plant Event Notification Worksheet

Attachment 3A – Directions for Completing the NRC Reactor Plant Event Notification Worksheet

2. Checklist Part 1 is for State Warning Point notification.
3. Checklist Part 2 is for NRC notification.

1. State Warning Point Notification

- A. Prepare the Florida Nuclear Plant Emergency Notification Form (form similar to Attachment 1) in accordance with Attachment 1A, Directions for Completing the Florida Nuclear Plant Emergency Notification Form. _____
- B. Emergency Coordinator (EC) approval. _____

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APPENDIX A
NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM
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1. (continued)

INITIAL

NOTE

1. Primary notification method to the State Warning Point (SWP) is to use the Hot Ring Down (HRD) phone.
2. If the HRD is out-of-service, alternate notification methods are provided in Section E, below.

- C.** Using the State HOT RING DOWN (HRD) Phone, dial 100. _____
- D.** Hold down the button on the handset while talking. This must be done each time you talk. Release the button in order to listen. When the State Duty Officer answers, announce "This is St. Lucie Nuclear Plant [as applicable (Unit 1, 2)] with an emergency message. I am standing by to transmit the Florida Nuclear Plant Emergency Notification Form when you are ready to copy." Allow the Duty Officer to contact St. Lucie County, Martin County and the Bureau of Radiation Control prior to transmitting the information from the notification form. When the parties are on line, provide the information slowly (e.g., in three word intervals) and deliberately, providing time for the information to be written down. _____

E. Alternate Notification Methods (in order of priority)

NOTE

Use of the commercial telephone as an alternate notification method requires callback verification from the State Warning Point. Use of ESATCOM as an alternate notification method should include a callback verification number if available (e.g., cellular phone).

1. Alternate 1 – Commercial Phone
 - a. Call the State Warning Point using the phone number in the St. Lucie Plant Emergency Response Directory (ERD). Announce "This is St. Lucie Nuclear Plant [as applicable (Unit 1 / 2)] with an emergency declaration. My callback number is _____."

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NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM

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- | | | | | |
|----|----|----|--|----------------|
| 1. | E. | 1. | (continued) | <u>INITIAL</u> |
| | | b. | Hang up the phone and standby for the callback. When the State Warning Point gives the go-ahead, provide the information from the Florida Nuclear Plant Emergency Notification Form. | _____ |
| | | c. | ¶ ₂ Request callback from the State Warning Point to verify that they notified St. Lucie County, Martin County and the Bureau of Radiation Control. | _____ |
| | | 2. | Alternate 2 - ESATCOM | |

NOTE

Use ESATCOM only if Alternate 1 – commercial phone is not available.

- | | | |
|----|--|-------|
| a. | Hold down the "push-to-talk" button on the handset and wait 3-5 seconds to hear a beep before you start talking. This must be done each time you talk. | _____ |
| b. | Announce "State Warning Point, this is St. Lucie Nuclear Plant [as applicable (Unit 1 / 2)] with an emergency declaration." Then release the "push-to-talk" button in order to listen. | _____ |
| c. | When the State Warning Point acknowledges, announce "State Warning Point, this is St. Lucie Nuclear Plant [as applicable (Unit 1 / 2)] declaring a / an (<u>classification</u>), repeat (<u>classification</u>). I am standing by to transmit Florida Nuclear Plant Emergency Notification Form information when you are ready to copy. When the State Warning Point gives the go-ahead, provide the information from the Florida Nuclear Plant Emergency Notification Form. | _____ |
| d. | Announce "St. Lucie clear" at the end of the conversation. | _____ |

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APPENDIX A
NOTIFICATIONS FROM THE AFFECTED CONTROL ROOM

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INITIAL

CAUTION

Notification of the NRC is expected immediately after notification of State and local agencies. The one hour time limit in 10 CFR 50.72 (a)(3) is to ensure timely NRC notification in cases where notification of State and local agencies is delayed or prolonged.

2. §1 NRC Notification

A. Prepare the NRC Reactor Plant Event Notification Worksheet (form similar to Attachment 3) in accordance with Attachment 3A, Directions for Completing the NRC Reactor Plant Event Notification Worksheet.

B. EC approval.

NOTE

1. Primary notification method to the NRC is to use the Emergency Notification System (ENS) phone.
2. If the ENS is out-of-service an alternate notification method is provided in Section D, below.

C. Transmit the form by dialing one of the numbers shown on the phone or in the Emergency Response Directory (ERD).

D. Alternate Notification Method

1. If the ENS is out-of-service, Then use a commercial phone to accomplish the above.

END OF APPENDIX A

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APPENDIX B
NOTIFICATIONS FROM THE TECHNICAL SUPPORT CENTER (TSC)

(Page 1 of 5)

INITIAL

CAUTION

- §₁ Notification of State and local agencies shall be made as soon as practicable within 15 minutes of declaration of an Emergency Class.
- ¶₃ A new Florida Nuclear Plant Emergency Notification Form shall be completed for all updates.

NOTE

- Checklist Part 1 is for HRD Communications.
- Checklist Part 2 is for ENS Communications.

1. State Warning Point Notification

- A.** Prepare the Florida Nuclear Plant Emergency Notification Form (form similar to Attachment 1) in accordance with Attachment 1A, Directions for Completing the Florida Nuclear Plant Emergency Notification Form.
- B.** Verify the Emergency Coordinator (EC) approval. _____

NOTE

- 1. Primary notification method to the State Warning Point (SWP) is to use the Hot Ring Down (HRD) phone.
- 2. If the HRD is out-of-service, alternate notification methods are provided in Section E, below.

- C.** Using the State HOT RING DOWN (HRD) Phone, dial 100. _____

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APPENDIX B
NOTIFICATIONS FROM THE TECHNICAL SUPPORT CENTER (TSC)
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1. (continued) INITIAL

- D.** Hold down the button on the handset while talking. This must be done each time you talk. Release the button in order to listen. When the State Duty Officer answers, announce "This is St. Lucie Nuclear Plant Technical Support Center with an emergency message. I am standing by to transmit the Florida Nuclear Plant Emergency Notification Form when you are ready to copy." Allow the Duty Officer to contact St. Lucie County, Martin County and the Bureau of Radiation Control prior to transmitting the information from the notification forms. When the parties are on line, provide the information slowly (e.g., in three word intervals) and deliberately, providing time for the information to be written down.

- E.** Alternate Notification Methods (in order of priority)

NOTE

Use of the commercial telephone as an alternate notification method requires callback verification from the State Warning Point. Use of ESATCOM as an alternate notification method should include a callback verification number if available (e.g., cellular phone).

1. Alternate 1 – Commercial Phone
 - a. Call the State Warning Point using the phone number in the St. Lucie Plant Emergency Response Directory (ERD). Announce "This is St. Lucie Nuclear Plant Technical Support Center with an emergency declaration. My callback number is _____."
 - b. Hang up the phone and standby for the callback. When the State Warning Point gives the go-ahead, provide the information from the Florida Nuclear Plant Emergency Notification Form.
 - c. ¶₂ Request callback from the State Warning Point to verify that they notified St. Lucie County, Martin County and the Bureau of Radiation Control.

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APPENDIX B
NOTIFICATIONS FROM THE TECHNICAL SUPPORT CENTER (TSC)

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1. E. (continued) INITIAL
2. Alternate 2 - ESATCOM

NOTE

Use ESATCOM only if Alternate 1 – commercial phone is not available.

- a. Hold down the "push-to-talk" button on the handset and wait 3-5 seconds to hear a beep before you start talking. This must be done each time you talk. _____
- b. Announce "State Warning Point, this is St. Lucie Nuclear Plant Technical Support Center with an emergency declaration." Then release the "push-to-talk" button in order to listen. _____
- c. When the State Warning Point acknowledges, announce "State Warning Point, this is St. Lucie Nuclear Plant Technical Support Center declaring a / an (classification), repeat (classification). I am standing by to transmit the Florida Nuclear Plant Emergency Notification Form when you are ready to copy. When the State Warning Point gives the go-ahead, provide the information from the Florida Nuclear Plant Emergency Notification Form. _____
- d. Announce "St. Lucie clear" at the end of the conversation. _____

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APPENDIX B
NOTIFICATIONS FROM THE TECHNICAL SUPPORT CENTER (TSC)
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INITIAL

CAUTION

Notification of the NRC is expected immediately after notification of State and local agencies. The one-hour time limit in 10 CFR 50.72 (a)(3) is to ensure timely NRC notification in cases where notification of State and local agencies is delayed or prolonged.

NOTE

1. Primary notification method to the NRC is to use the Emergency Notification System (ENS) phone.
2. If the ENS is out-of-service, an alternate notification method is provided in Section B, below.

2. §1 NRC Notification

A. Choose and complete the appropriate steps, below:

1. If the NRC Reactor Plant Event Notification Worksheet has NOT previously been transmitted from the Control Room, Then request that the EC Assistant / Logkeeper prepare the form. _____
2. Verify EC approval. _____
3. Transmit the form by dialing one of the numbers shown on the phone or in the Emergency Response Directory (ERD), then GO TO the next step to establish an open line of communication with the NRC. _____

OR

4. If the NRC Reactor Plant Event Notification Worksheet has previously been transmitted by the Control Room, Then initiate an open line of communication with the NRC by dialing one of the numbers shown on the phone or in the ERD and request to be placed on the Conference Bridge with the NRC. _____
5. As requested, provide information to the NRC. _____

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APPENDIX B
NOTIFICATIONS FROM THE TECHNICAL SUPPORT CENTER (TSC)

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2. (continued)

INITIAL

B. Alternate Notification Method

1. If the ENS is out-of-service, Then use a commercial phone to accomplish the above.

END OF APPENDIX B

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APPENDIX C
NOTIFICATIONS FROM THE EMERGENCY OPERATIONS FACILITY (EOF)

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INITIAL

CAUTION

- §1 Notification of State and local agencies shall be made as soon as practicable within 15 minutes of declaration of Emergency Class or change in Protective Action Recommendation (PAR).
- ¶3 A new Florida Nuclear Plant Emergency Notification Form shall be completed for all updates.

NOTE

- Checklist Part 1 is for HRD Communications.
- Checklist Part 2 is for ENS Communications.

1. State Warning Point Notification

- A.** Prepare the Florida Nuclear Plant Emergency Notification Form (form similar to Attachment 1) in accordance with Attachment 1A, Directions for Completing the Florida Nuclear Plant Emergency Notification Form.
- B.** Verify the Recovery Manager (RM) approval. _____

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APPENDIX C
NOTIFICATIONS FROM THE EMERGENCY OPERATIONS FACILITY (EOF)
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1. (continued)

INITIAL

NOTE

1. Primary notification method to the State Warning Point (SWP) is to use the Hot Ring Down (HRD) phone.
2. If the HRD is out-of-service, alternate notification methods are provided in Section D, below.
3. State and County representatives means Florida Division of Emergency Management (DEM), Florida Department of Health (DOH), St. Lucie County Department of Public Safety (DPS) and Martin County Department of Emergency Services (DES).
4. Notification forms means the Florida Nuclear Plant Emergency Notification Form.

C. Choose and complete the appropriate step below:

1. If State and County representatives are NOT co-located with the FPL Emergency Response Organization (ERO) in the EOF, Then call the SWP and transmit the notification forms. To contact the SWP, dial 100. Hold down the button on the handset while talking. This must be done each time you talk. Release the button in order to listen. When the State Duty Officer answers, announce "this is St. Lucie Nuclear Plant Emergency Operations Facility with an emergency message. I am standing by to transmit the Florida Nuclear Plant Emergency Notification Form when you are ready to copy." Allow the Duty Officer to contact the Bureau of Radiation Control, St. Lucie County DPS and Martin County DES prior to transmitting the information from the notification forms. When the parties are on line, transmit the information slowly, (e.g., in three word intervals) and deliberately, providing time for the information to be written down.

OR

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APPENDIX C
NOTIFICATIONS FROM THE EMERGENCY OPERATIONS FACILITY (EOF)
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1. C. (continued) INITIAL

2. If State and County representatives are co-located with the FPL ERO in the EOF and the State Coordinating Officer (SCO) has NOT assumed Net Control, Then call the SWP and transmit the notification forms – “Time of Contact” corresponds to the start time of the Recovery Manager’s Protective Action Recommendation (PAR) Briefing. To contact the SWP, dial 100. Hold down the button on the handset while talking. This must be done each time you talk. Release the button in order to listen. When the State Duty Officer answers, announce “this is St. Lucie Nuclear Plant Emergency Operations Facility with an emergency message. I am standing by to transmit the Florida Nuclear Plant Emergency Notification Form when you are ready to copy.” Allow the Duty Officer to contact the Bureau of Radiation Control, St. Lucie County DPS and Martin County DES prior to transmitting the information from the notification forms. When the parties are on line, transmit the information slowly, (e.g., in three word intervals) and deliberately, providing time for the information to be written down.

OR

3. If State and County representatives are co-located with the FPL ERO in the EOF and the SCO has transferred Net Control to the EOF, Then the SWP is not called (completed notification forms are given to the SCO – may be accomplished by the RM or RM OPS Advisor / Logkeeper).

D. Alternate Notification Methods (in order of priority)

NOTE

Use of the commercial telephone as an alternate notification method requires callback verification from the State Warning Point. Use of ESATCOM as an alternate notification method should include a callback verification number if available (e.g., cellular phone).

1. Alternate 1 – Commercial Phone

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APPENDIX C
NOTIFICATIONS FROM THE EMERGENCY OPERATIONS FACILITY (EOF)

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1. **D.** **1.** (continued) INITIAL

a. Call the State Warning Point using the phone number in the St. Lucie Plant Emergency Response Directory (ERD). Announce "This is St. Lucie Nuclear Plant Emergency Operations Facility with an emergency declaration. My callback number is _____."

b. Hang up the phone and standby for the callback. When the State Warning Point gives the go-ahead, provide the information from the Florida Nuclear Plant Emergency Notification Form. _____

c. ¶₂ Request callback from the State Warning Point to verify that they notified St. Lucie County, Martin County and the Bureau of Radiation Control. _____

2. Alternate 2 - ESATCOM

NOTE

Use ESATCOM only if Alternate 1 – commercial phone is not available.

a. Hold down the "push-to-talk" button on the handset and wait 3-5 seconds to hear a beep before you start talking. This must be done each time you talk. _____

b. Announce "State Warning Point, this is St. Lucie Nuclear Plant Emergency Operations Facility with an emergency declaration." Then release the "push-to-talk" button in order to listen. _____

c. When the State Warning Point acknowledges, announce "State Warning Point, this is St. Lucie Nuclear Plant Emergency Operations Facility declaring a / an (classification), repeat (classification). I am standing by to transmit the Florida Nuclear Plant Emergency Notification Form when you are ready to copy." When the State Warning Point gives the go-ahead, provide the information from the Florida Nuclear Plant Emergency Notification Form. _____

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APPENDIX C
NOTIFICATIONS FROM THE EMERGENCY OPERATIONS FACILITY (EOF)

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1. **D.** 2. (continued) INITIAL
- d. Announce "St. Lucie clear" at the end of the conversation. _____

CAUTION

Notification of the NRC is expected immediately after notification of State and local agencies. The one-hour time limit in 10 CFR 50.72 (a)(3) is to ensure timely NRC notification in cases where notification of State and local agencies is delayed or prolonged.

2. §1 NRC Notification

NOTE

1. Primary notification method to the NRC is to use the Emergency Notification System (ENS) phone.
2. If the ENS is out-of-service, an alternate notification method is provided in Section B, below.

- A.** Choose and complete the appropriate steps, below:

1. If the NRC Reactor Plant Event Notification Worksheet has NOT previously been transmitted from either the Control Room or Technical Support Center (TSC), Then request that the RM OPS Advisor prepare the form. _____
2. Verify RM approval. _____
3. Transmit the form by dialing one of the numbers shown on the phone or in the Emergency Response Directory (ERD), then GO TO the next step to establish an open line of communication with the NRC. _____

OR

4. If the NRC Reactor Plant Event Notification Worksheet has previously been transmitted by either the Control Room or the TSC, Then initiate an open line of communication with the NRC by dialing one of the numbers shown on the phone or in the ERD and request to be placed on the Conference Bridge with the NRC and the St. Lucie TSC. _____

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APPENDIX C
NOTIFICATIONS FROM THE EMERGENCY OPERATIONS FACILITY (EOF)
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- | | | | |
|----|----|--|----------------|
| 2. | A. | (continued) | <u>INITIAL</u> |
| | 5. | Take the lead in providing information to the NRC. | _____ |
| | B. | Alternate Notification Method | |
| | 1. | <u>If</u> the ENS is out-of-service, <u>Then</u> use a commercial phone to accomplish the above. | _____ |

END OF APPENDIX C

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ATTACHMENT 1
FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM
 (Page 1 of 1)

- On-line Verification: ☐ SWP/DEM ☐ St. Lucie County ☐ Martin County
1. A. ☐ THIS IS A DRILL B. ☐ THIS IS AN EMERGENCY
2. A. Date: ____/____/____ B. Contact Time: ____ C. Reported by: (Name) _____
 D. Message Number: _____ E. Reported from: ☐ Control Room ☐ TSC ☐ EOF
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 C. ☐ Site Area Emergency
 B. ☐ Alert D. ☐ General Emergency
5. A. ☐ Emergency Declaration: B. ☐ Emergency Termination: Date: ____/____/____ Time: ____
6. Reason for Emergency Declaration*: A. ☐ EAL Number OR B. ☐ Description: _____
7. Additional Information or Update: A. ☐ None OR B. ☐ _____
8. Weather Data: A. Wind direction from ____ degrees B. Downwind Sectors Affected: _____
9. Release Status: A. ☐ None (Go to Item 11) B. ☐ Is occurring C. ☐ Has occurred, but stopped
10. Release Significance Category (at the Site Boundary):
 A. ☐ Information not available at this time.
 B. ☐ Release within normal operating limits (≤ 3.5 E-1 Ci/sec noble gas, ≤ 4.6 E-5 Ci/sec iodine)
 C. ☐ Non-Significant Fraction of PAG Range (release is $>$ normal limits and < 500 mrem TEDE and 1000 mrem CDE)
 D. ☐ PAG Range (≥ 500 mrem TEDE or ≥ 1000 mrem CDE)

11. Utility Recommended Protective Actions:

A. ☐ No recommended actions at this time.

B. ☐ The utility recommends the following protective actions:

Miles	No Action Sectors	Evacuate Sectors	Shelter Sectors
0 - 2	_____	_____	_____
2 - 5	_____	_____	_____
5 - 10	_____	_____	_____

OR

Shelter Zones / Areas: _____

Evacuate Zones / Areas: _____

C. Consider issuance of KI: ☐ Yes ☐ No

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: ☐ N/A OR
 A. ☐ Noble Gases ____ Curies per second B. ☐ Iodines ____ Curies per second
 C. Airborne: Date Started ____/____/____ Time Started ____ Date Stopped ____/____/____ Time Stopped ____
 D. Liquid: Date Started ____/____/____ Time Started ____ Date Stopped ____/____/____ Time Stopped ____
- | | | |
|------------------------|---|--|
| Distance | Projected Thyroid Dose (CDE) for 1 Hour | Projected Total Dose (TEDE) for 1 Hour |
| 1 Mile (Site Boundary) | E. _____ mrem | F. _____ mrem |
| 2 Miles | G. _____ mrem | H. _____ mrem |
| 5 Miles | I. _____ mrem | J. _____ mrem |
| 10 Miles | K. _____ mrem | L. _____ 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 line 15.

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¶6 ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM
 (Page 1 of 7)

ITEM ENTRY

On-line Verification - Check the appropriate boxes as the State Warning Point (Florida Division of Emergency Management) requests that St. Lucie County Department of Public Safety and the Martin County Division of Emergency Management get on the line, prior to initiating the notification. All three agencies must be notified through the SWP or alternate means.

1. Check appropriate box for drill or actual emergency as the case may be. During exercises, drills, or tests, each message shall be checked **THIS IS A DRILL.**
- 2A. Enter today's date.
- 2B. Enter the time (using the official time, normally synchronized with ERDADS) when contact is made with the State Warning Point or the start time of the RM PAR Briefing. For initial notification of classification, this shall be within 15 minutes of the "Emergency Declaration" time in item 5.
- 2C. Enter the name of the person making the notification call.
- 2D. Enter the message number beginning with #1 and following sequentially in all facilities (e.g., if the Control Room transmitted two messages the TSC would start with #3).
- 2E. Check the box for the facility from which the notification is being made.
3. Site
Check the box for the appropriate plant site for the emergency declaration (both St Lucie boxes might need to be checked for dual unit events such as approach of a hurricane).
4. Emergency Classification
Check the box corresponding to current accident classification declared.
5. Emergency Declaration or Emergency Termination
Enter the **date** and **time** when the current emergency classification was declared (A) or (B) when the emergency was terminated.

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM
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6. Reason for Emergency Declaration
 Enter the Emergency Action Level (EAL) number (A) (This option is currently not being used at Plant St. Lucie) or (B) enter wording like that found in the EAL information in EPIP-01, Classification Of Emergencies. Wording should be brief yet descriptive enough for the off-site agencies to gain an understanding of the event. It should be clear from the incident description which EAL has necessitated the emergency declaration. Wording should be as non-technical as possible with no acronyms or abbreviations. This information should remain the same throughout update messages, unless there is a classification change.
- "*" asterisk and instruction provided at the bottom of form - If Emergency Class escalation is necessary due to rapidly degrading conditions, Then provide the State and County authorities with the initial notification information by transmitting lines 1-6, at a minimum, on the State Notification Form (SNF) and terminate the call by stating that a new notification form will be provided within 15 minutes.
7. Additional Information or Update
 Check "None" (A) or (B) Description and enter additional information, if necessary, or reason for update here. For example:
- Protective Action Recommendations (PARs) change
 - An occurrence that would otherwise result in a lower emergency classification, on other unit
 - Weather changes affecting public safety
 - Radiation level changes
 - Loss of off-site power, etc.

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM
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NOTE

If the Class A Model (dose projection model) is being used, a 'State Notification Form Summary Sheet' is available which provides information for items 8-11, 13 and 14. The information is in a format similar to that found on the Florida Nuclear Plant Emergency Notification Form.

8. Weather Data

NOTE

10 meter data should be used.

- A. ¶₁₀ Wind direction can be obtained from ERDADS by depressing the "EPIP" key, on the top row of the keyboard. The Met Tower Indicator Panel in the Unit 1 Control Room is an alternate source. If these two sources are not available, refer to Attachment 1, Meteorological Data, in EPIP-09, Off-Site Dose Calculations.
- B. If the wind direction is greater than 360° the wind direction is determined by subtracting 360° from the indicated number. Wind direction should be rounded to the nearest whole number.
- C. Wind direction is always given as "wind from" (an easterly wind, or wind direction 90°, means that the wind is blowing from east to west).
- D. When determining the sectors affected, the adjacent sectors on both sides of the actual downwind sector are included. Three sectors will typically be listed.
- E. If the wind is located on the edge of a sector (i.e., 11°, 33°, etc.) an additional (fourth) sector should be added.
- F. Enter the wind direction (wind from) in degrees in item "A."

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM
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8. (continued)

G. Enter the downwind sectors in item "B."

Wind From	Sectors Affected	Wind From	Sectors Affected	Wind From	Sectors Affected
348-11	HJK	123-146	PQR	236-258	CDE
11-33	JKL	146-168	QRA	258-281	DEF
33-56	KLM	168-191	RAB	281-303	EFG
56-78	LMN	191-213	ABC	303-326	FGH
78-101	MNP	213-236	BCD	326-348	GHJ
101-123	NPQ	There is no "O" sector		There is no "I" sector	

9. Release Status

A. If there are no indications of a release of radioactive material, check box "A" and go to item 11.

A release of radioactive material (during any declared emergency) is defined as:

- Any effluent monitor increase of (approximately) 10 times or one decade above pre-transient values

OR

- Health Physics detecting airborne radioactivity levels in excess of 25% derived air concentration (DAC) outside of plant buildings due to failure of equipment associated with the declared emergency.

B. If a release of radioactive material is occurring, even though it may be less than normal operating limits, check box "B."

C. If a release has occurred but stopped, check box "C."

Dose Assessment personnel in the TSC or EOF will have this information. The TSC Chemistry Supervisor, TSC HP Supervisor or EOF HP Manager should be contacted for the data.

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM
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10. Release Significance Category

Do Not Check Any Box in Item 10 if you Checked Box 9 "A" No Release

- A. If a release is occurring or has occurred and dose information is not available at the time of notification, check box "A" and follow up as soon as information becomes available.
- B. Check box "B" if both noble gas and iodine release rates are less than or equal to the following:

Noble Gas release $\leq 3.5 \text{ E}+5 \text{ } \mu\text{Ci/sec}$ ($3.5 \text{ E}-1 \text{ Ci/sec}$)
Iodine release $\leq 4.6 \text{ E}+1 \text{ } \mu\text{Ci/sec}$ ($4.6 \text{ E}-5 \text{ Ci/sec}$)
- C. Check box "C" if either noble gas or iodine release rates exceed the values in "B" (above) but forecasted 1 mile doses are less than either 500 mrem TEDE or 1000 mrem Thyroid CDE. These doses are less than the state's Protective Action Guide (PAG) levels.
- D. Check box "D" if forecasted 1 mile doses are greater than or equal to either 500 mrem TEDE or 1000 mrem Thyroid CDE. These PAG levels require state and county action.

11. Utility Recommended Protective Actions

- A. If there are no Protective Action Recommendations (PARs), check Box "A."
- B. If PARs are necessary, check Box "B". Two formats are provided to record PARs. Use the "sector" format and determine appropriate PARs using the guidance in Attachment 2 to this procedure. Copy the PARs into item 11 "C." Indicate PARs using only the words NONE, ALL, ALL REMAINING or by listing the letters of the sectors affected. Protective Action Recommendations shall be approved by the Emergency Coordinator (EC) or the Recovery Manager (RM). The "zone" format is for Crystal River Unit 3 use only.
- C. Check the "Yes" box (to consider issuance of potassium iodide (KI) only if:
 - (1) A General Emergency has been declared
 - AND
 - (2) A release of radioactive material is occurring.

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM
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12. Plant Conditions

Answer the three questions "Yes" or "No" by checking the appropriate box.

- A. Is the reactor shut down?
- B. Is the core adequately cooled?
- C. Is the containment intact?

Answer the question regarding the condition of the core as either stable or degrading.

13. Weather Data

NOTE
10 meter data should be used.

- A. ¶₁₀ Temperature, wind speed and wind direction can be obtained from ERDADS by depressing the "EPIP" key, on the top row of the keyboard. The Met Tower Indicator Panel in the Unit 1 Control Room is an alternate source. If these two sources are not available, refer to Attachment 7, Meteorological Data, in EPIP-09, Off-site Dose Calculations.
- B. Enter wind speed in Miles Per Hour (MPH) in item "A".
- C. Stability Class - Enter the stability class as determined by using the figure below. The figure shows the relationship between the Delta T displayed by ERDADS and the stability class.

If Delta-T is	Then Stability Class is
Less than or equal to -1.7	A
-1.6 to -1.5	B
-1.4	C
-1.3 to -0.5	D
-0.4 to +1.4	E
+1.5 to +3.6	F
Greater than +3.6	G

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ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM

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14. Additional Release Information

This section requires that a release be in progress and completed results of dose assessment be available. Check the "N/A" box if no release is occurring and/or if dose information is not available. Otherwise, provide all information that applies.

- A. Enter the noble gas release rate in curies per second.
- B. Enter the iodine release rate in curies per second.
- C. For an airborne release, enter the date and time started and when terminated, the date and stopped.
- D. For a liquid release, enter the date and time started and when terminated, the date and time stopped.

Projected Dose Information - Enter the projected Thyroid Dose (CDE) in mrem for 1 hour (EPIP-09, Manual Dose Calculation Worksheet, Line 5) and the projected Total Dose (TEDE) in mrem for 1 hour (EPIP-09, Manual Dose Calculation Worksheet, Line 16) for the site boundary 2, 5 and 10 miles.

15. Message Received By

Enter the name of the State Warning Point Duty Officer or the individual that receives the notification. Enter the time at the State Warning Point (request it from the Duty Officer) and indicate the date the call is completed.

END OF ATTACHMENT 1A

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ATTACHMENT 2
DETERMINATION OF PROTECTIVE ACTION RECOMMENDATIONS (PARs)
 (Page 1 of 5)

NOTE

- Initial notification from the Control Room may utilize PARs based on plant conditions.
- Once dose assessment begins, PARs should be made utilizing all available data including off-site dose projections, plant conditions and field monitoring data.
- **Both plant conditions and off-site doses shall be considered for PARs.**
- The most conservative recommendations should be made.
- If it is anticipated that a threshold for a PAR will be exceeded, it is neither necessary nor desirable to wait until the threshold is exceeded to make that PAR.
- ¶₁₂ Conditions (plant information, dose projections and field monitoring results) are to be continually assessed and PARs expanded, as necessary, to ensure that adequate (most conservative) PARs are issued.
- ¶₁₂ Previously issued PARs, unless found to be less conservative, are to remain in effect until the threat is fully under control and the event is being de-escalated.
- ¶₁₂ Only State and County officials can implement, change and/or terminate protective actions.

1. PAR Flowchart

A. PARs Based on Plant Conditions

1. Begin in the upper left hand corner of the chart by answering the General Emergency (GE) question.
2. Correctly answer the questions until you reach one of the boxes that provides PAR information based on plant conditions.
3. If there is no release, Then go to the PAR Worksheet and fill-in the PARs based on plant conditions. The sectors affected can be determined by referring to number 8, Weather Data, in Attachment 1A, Directions for Completing the Florida Nuclear Plant Emergency Notification Form.
4. If a release is involved, Then go to Section B, PARs Based on Off-site Dose, below.

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ATTACHMENT 2
DETERMINATION OF PROTECTIVE ACTION RECOMMENDATIONS (PARs)
 (Page 2 of 5)

1. (continued)

NOTE

- If the Class A Model printout, State Notification Form Summary Sheet is available, it should be used to compare dose-based PARs against PARs based on plant conditions.
- Calculated off-site doses should be compared to field monitoring data when determining PARs.

B. PARs Based on Off-site Dose

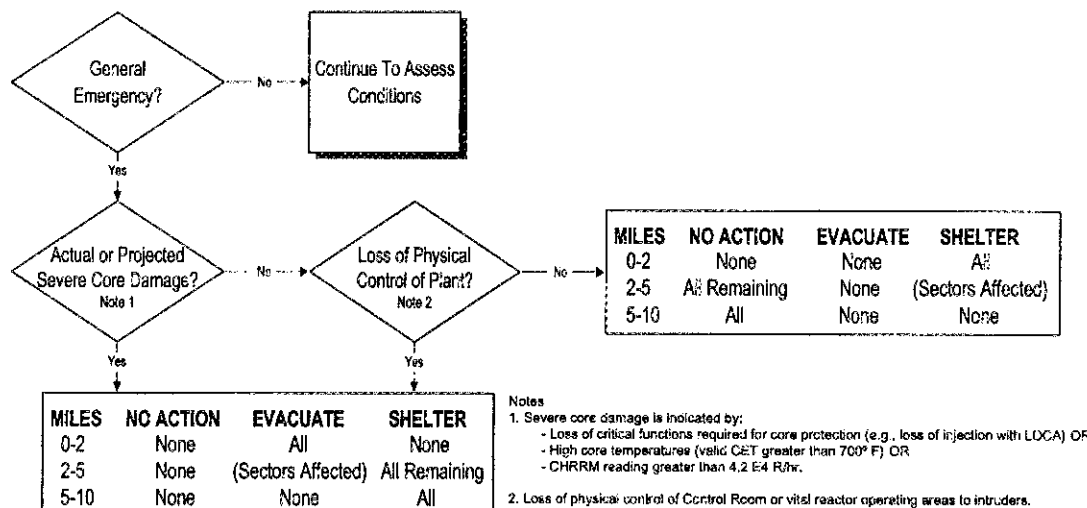
1. PARs are based on the Total Effective Dose Equivalent (TEDE or total dose) and / or the Committed Dose Equivalent (CDE, thyroid dose). Do NOT use dose rate values.
2. If using the Class A Model, Then in Forecast Mode, print the State Notification Form Summary for computer generated PARs.
 - a. Go to Section C, PAR Worksheet
3. If using EPIP-09, Off-site Dose Calculations, Then calculate TEDE and CDE in accordance with the procedure.
 - a. Compare the TEDE dose at 1 mile with the values on the Flowchart. Enter the chart at the appropriate dose level by determining if the dose is between 500 and 999 mrem or between 1000 and 4999 mrem or 5000 mrem or greater.
 - b. From the selected dose level, move to the right on the chart to the first column, 0-2 miles. The PAR provided corresponds to the calculated TEDE at 1 mile.
 - c. Enter the PAR in the 0-2 miles block on the TEDE DOSE table below the PAR Flowchart. The sectors affected can be determined by referring to number 8, Weather Data, in Attachment 1A, Directions for Completing the Florida Nuclear Plant Emergency Notification Form.
 - d. Continue to determine the corresponding PAR at 2-5 miles using the calculated 2 mile TEDE, at 5-10 miles using the calculated 5 mile TEDE and the 10 miles plus (To Be Determined (TBD) distance) using the calculated 10 mile TEDE, as necessary.
 - e. Enter the PAR information in the appropriate blocks of the TEDE DOSE table.

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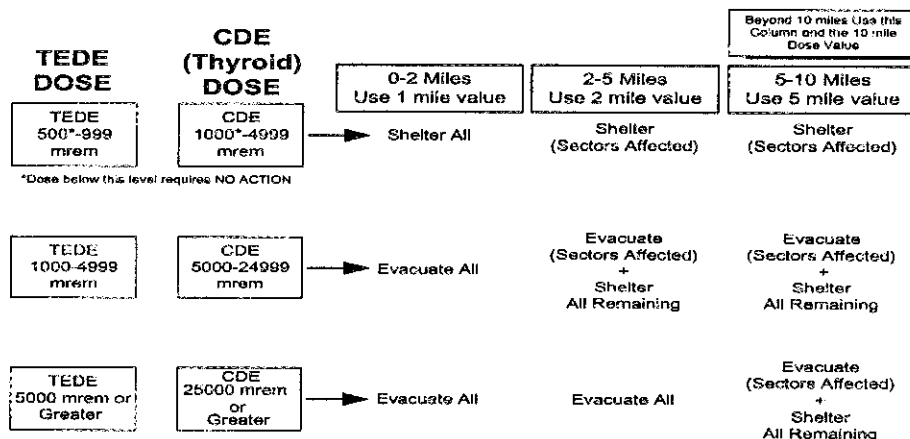
ATTACHMENT 2
DETERMINATION OF PROTECTIVE ACTION RECOMMENDATIONS (PARs)
 (Page 3 of 5)

- 1. B. 3.** (continued)
- f.** Follow the same methodology for determining the PARs corresponding to the calculated CDE values beginning with the calculated value at 1 mile.
 - g.** Enter each of the determined PARs in the CDE (Thyroid) DOSE table below the PAR Flowchart.
 - h.** Go to Section C, PAR Worksheet.
- C. PAR Worksheet**
- 1.** Fill-in the time / date and emergency class.
 - 2.** In Part A, determine the most conservative PARs by comparing the PARs based on plant conditions against those based on off-site dose. It is important to compare PARs at each distance (0-2, 2-5, 5-10) because the basis of the most conservative PAR could be different at different distances.
 - 3.** Enter the most conservative PARs into the table in Part B, Protective Actions Recommended by FPL. Use the word(s) NONE, ALL, ALL REMAINING or list the individual affected sectors by letter.
 - 4.** Obtain review and approval.
 - 5.** Transfer the approved PARs to the Florida Nuclear Plant Emergency Notification Form.

ATTACHMENT 2
DETERMINATION OF PROTECTIVE ACTION RECOMMENDATIONS (PARs)
 (Page 4 of 5)



PARs Based on Off-Site Dose
 (For use with manual dose calculation only. Not to be completed when Class A Model is used)



Use the following terms in this table: **NONE, ALL, ALL REMAINING** or fill in the letters of the sectors affected.

TEDE DOSE	Miles	NO ACTION	EVACUATE	SHELTER
	0-2			
	2-5			
	5-10			
	> 10			

Use the following terms in this table: **NONE, ALL, ALL REMAINING** or fill in the letters of the sectors affected.

CDE (Thyroid) DOSE	Miles	NO ACTION	EVACUATE	SHELTER
	0-2			
	2-5			
	5-10			
	> 10			

(P/E/EPIP-08/APP C-41)

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ATTACHMENT 2
DETERMINATION OF PROTECTIVE ACTION RECOMMENDATIONS (PARs)
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PAR WORKSHEET

Time / Date _____ Emergency Class: ☐ SAE ☐ GE

A. PAR Comparison

After comparing the possible recommendations from the PARs flowchart, the most conservative PARs are based on: (check one)

☐ PLANT CONDITIONS ☐ OFF-SITE DOSE

B. Protective Actions Recommended by FPL:

Use the following terms in this table: **NONE, ALL, ALL REMAINING** Or fill in the letters of the sectors affected.

	NO ACTION SECTORS	EVACUATE SECTORS	SHELTER SECTORS
0-2 miles			
2-5 miles			
5-10 miles			
10-TBD miles*			

*If necessary, add to State Notification Form.

Control Room

Signature _____
 Emergency Coordinator

Technical Support Center

Signature _____
 TSC EC Assistant / Logkeeper TSC HP Supervisor or TSC Chemistry Supervisor

Emergency Operations Facility

Signature _____
 EOF RM OPS Advisor / Logkeeper EOF HP Manager

END OF ATTACHMENT 2

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ATTACHMENT 3
118 NRC REACTOR PLANT EVENT NOTIFICATION WORKSHEET
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NRC FORM 361 (12-2000)		U.S. NUCLEAR REGULATORY COMMISSION OPERATIONS CENTER	
REACTOR PLANT EVENT NOTIFICATION WORKSHEET			EN #
NOTIFICATION TIME	FACILITY OR ORGANIZATION	UNIT	NAME OF CALLER
		CALL BACK #	
EVENT TIME & ZONE	EVENT DATE	POWERMODE BEFORE	POWERMODE AFTER
EVENT CLASSIFICATIONS		1-Hr. Non-Emergency 10 CFR 50.72(b)(1)	(v)(A) Safe S/D Capability AINA
GENERAL EMERGENCY	GEN/AAEC	TS Deviation ADEV	(v)(B) RHR Capability AINB
SITE AREA EMERGENCY	SIT/AAEC	4-Hr. Non-Emergency 10 CFR 50.72(b)(2)	(v)(C) Control of Rad Release AINC
ALERT	ALE/AAEC	(i) TS Required S/D ASHU	(v)(D) Accident Mitigation AIND
UNUSUAL EVENT	UNU/AAEC	(iv)(A) ECCS Discharge to RCS ACCS	(xii) Offsite Medical AMED
50.72 NON-EMERGENCY (see next columns)		(iv)(B) RPS Actuation (scram) ARPS	(xiii) Loss Comm/Asmt/Resp ACOM
PHYSICAL SECURITY (73.71)	DDDD	(xi) Offsite Notification APRE	60-Day Optional 10 CFR 50.73(a)(1)
MATERIAL/EXPOSURE	B???	8-Hr. Non-Emergency 10 CFR 50.72(b)(3)	Invalid Specified System Actuation AINA
FITNESS FOR DUTY	HFIT	(ii)(A) Degraded Condition ADEG	Other Unspecified Requirement (Identify)
OTHER UNSPECIFIED REQMT. (see last column)		(ii)(B) Unanalyzed Condition AUNA	NONR
INFORMATION ONLY	NNF	(iv)(A) Specified System Actuation AESF	NONR

DESCRIPTION

Include: Systems affected, actuations and their initiating signals, causes, effect of event on plant, actions taken or planned, etc. (Continue on back)

NOTIFICATIONS	YES	NO	WILL BE	ANYTHING UNUSUAL OR NOT UNDERSTOOD?	<input type="checkbox"/> YES (Explain above)	<input type="checkbox"/> NO
NRC RESIDENT						
STATE(s)				DID ALL SYSTEMS FUNCTION AS REQUIRED?	<input type="checkbox"/> YES	<input type="checkbox"/> NO (Explain above)
LOCAL						
OTHER GOV AGENCIES				MODE OF OPERATION UNTIL CORRECTED:	ESTIMATED RESTART DATE:	ADDITIONAL INFO ON BACK
MEDIA/PRESS RELEASE						<input type="checkbox"/> YES <input type="checkbox"/> NO

Form # PSL-F080

EPIP-08, Off-Site Notifications and Protective Action Recommendations,
and AP 0010721, NRC Required Non-Routine Notifications and Reports

Effective Date: 08/29/03

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ATTACHMENT 3
18 NRC REACTOR PLANT EVENT NOTIFICATION WORKSHEET
 (Page 2 of 2)

RADIOLOGICAL RELEASES: CHECK OR FILL IN APPLICABLE ITEMS (specific details/explanations should be covered in event description)						
<input type="checkbox"/> LIQUID RELEASE	<input type="checkbox"/> GASEOUS RELEASE	<input type="checkbox"/> UNPLANNED RELEASE	<input type="checkbox"/> PLANNED RELEASE	<input type="checkbox"/> ONGOING	<input type="checkbox"/> TERMINATED	
<input type="checkbox"/> MONITORED	<input type="checkbox"/> UNMONITORED	<input type="checkbox"/> OFFSITE RELEASE	<input type="checkbox"/> T.S. EXCEEDED	<input type="checkbox"/> RM ALARMS	<input type="checkbox"/> AREAS EVACUATED	
<input type="checkbox"/> PERSONNEL EXPOSED OR CONTAMINATED		<input type="checkbox"/> OFFSITE PROTECTIVE ACTIONS RECOMMENDED		<input type="checkbox"/> *State release path in description		

	Release Rate (Ci/sec)	% T.S. LIMIT	HOO GUIDE	Total Activity (Ci)	% T.S. LIMIT	HOO GUIDE
Noble Gas			0.1 Ci/sec			1000 Ci
Iodine			10 uCi/sec			0.01 Ci
Particulate			1 uCi/sec			1 mCi
Liquid (excluding tritium and dissolved noble gases)			10 uCi/min			0.1 Ci
Liquid (tritium)			0.2 Ci/min			5 Ci
Total Activity						

	PLANT STACK	CONDENSER/AIR EJECTOR	MAIN STEAM LINE	SG BLOWDOWN	OTHER
RAD MONITOR READINGS					
ALARM SETPOINTS					
% T.S. LIMIT (if applicable)					

RCS OR SG TUBE LEAKS: CHECK OR FILL IN APPLICABLE ITEMS: (specific details/explanations should be covered in event description)

LOCATION OF THE LEAK (e.g., SG #, valve, pipe, etc.)

LEAK RATE	UNITS: gpm/gpd	T.S. LIMITS	SUDDEN OR LONG-TERM DEVELOPMENT
LEAK START DATE	TIME	COOLANT ACTIVITY AND UNITS:	PRIMARY SECONDARY

LIST OF SAFETY RELATED EQUIPMENT NOT OPERATIONAL

EVENT DESCRIPTION (Continued from front)

Form # PSL-F080

EPIP-08, Off-Site Notifications and Protective Action Recommendations,
and AP 0010721, NRC Required Non-Routine Notifications and Reports

Effective Date: 08/29/03

END OF ATTACHMENT 3

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ATTACHMENT 3A
DIRECTIONS FOR COMPLETING THE NRC REACTOR PLANT
EVENT NOTIFICATION WORKSHEET
 (Page 1 of 2)

- A.** Contact information - to be completed following contact
1. Name of the person contacting the NRC or other designated FPL contact.
 2. NRC Contacts Name - will be provided upon contact. Also obtain the event number and notification time as received from the HOO should be recorded on the top of the worksheet.
- B.** Reactor Plant Event Notification Worksheet, Page 1

NOTE The "EN #" is provided by the NRC.

1. Notification Time - enter the time contact is made.
2. Unit - enter the appropriate unit number: Enter "0" for a classification common to both units.
3. Callers Name - enter the name of the person making the call.
4. Call back # - enter the number of the ENS phone that you are calling from and the commercial phone number at which you can be reached.
5. Event time and Zone - enter the military time, the zone will be "EST" for Eastern Standard Time or "EDT" for Eastern Daylight-savings Time.
6. Event Date - enter the date the event is occurring.
7. Power / Mode Before & Power / Mode After - enter the power in percent and the mode number (1-6) before and after the event.

NOTE Abbreviations / acronyms (e.g., UNU / AAEC, SIT / AAEC, etc.) are for NRC use only.
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8. Event Classifications - check one of the four blocks for General Emergency, Site Area Emergency, Alert, or Notification of Unusual Event.

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ATTACHMENT 3A
DIRECTIONS FOR COMPLETING THE NRC REACTOR PLANT
EVENT NOTIFICATION WORKSHEET
 (Page 2 of 2)

B. (continued)

NOTE

No other blocks in the upper half of the form are required.

- 9.** Description - provide a written description of the event.

NOTE

Check the blocks in the lower portion of the form based on current conditions.

- 10.** Mode of operation until corrected - provided if known.

- 11.** Estimate for restart date - enter "unknown".

- 12.** Additional info on Page 2 - enter yes or no.

C. Reactor Plant Event Notification Worksheet, Page 2

- 1.** Fill in as much of the information on the form as is immediately available - do not create undue delay in making the notification. This information can be gained once the open line of communication is established.

D. Approval

- 1.** Information entered on the worksheet shall be reviewed and approved by the EC or RM (if used in the EOF), prior to transmission.
- 2.** The EC / RM may initial on the worksheet to indicate approval. There is no formal sign-off location on the worksheet.

END OF ATTACHMENT 3A