



February 23, 2000

L-2000-036
10 CFR 50 Appendix E

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Re: St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389
Emergency Plan Implementing Procedures

In accordance with 10 CFR 50 Appendix E, enclosed is a copy of the revised procedures that implement the Emergency Plan as listed below.

<u>Number</u>	<u>Title</u>	<u>Revision</u>	<u>Implementation Date</u>
HP-202	Environmental Monitoring During Emergencies	26	January 26, 2000
EPIP-02	Duties And Responsibilities Of The Emergency Coordinator	5	February 7, 2000

HP-202 Revision 26 made editorial changes to the map in Appendix B and changed Net Counts Per Minute (NCPM) to Gross Counts Per Minute (GCPM) on the Environmental Airborne Activity Calculation Form step number 8. EPIP-02 Revision 5 added instructions for implementation / activation of the new Gai-tronics alarm – emergency plan activation and made human factors improvements.

Please contact us if there are any questions regarding these procedures.

Very truly yours,

Rajiv S. Kundalkar
Vice President
St. Lucie Plant

RSK/tlt

Enclosures

cc: Regional Administrator, Region II, USNRC (2 copies)
Senior Resident Inspector, USNRC, St. Lucie Plant (w/o)



**ST. LUCIE PLANT
EMERGENCY PLAN
IMPLEMENTING PROCEDURE**

SAFETY RELATED

Procedure No.
EPIP-02

Current Rev. No.
5

Effective Date:
02/07/00

Title:

**DUTIES AND RESPONSIBILITIES OF
THE EMERGENCY COORDINATOR**

Responsible Department: **EMERGENCY PLANNING**

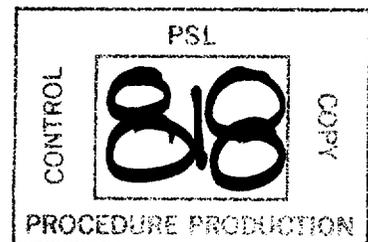
Revision Summary

Revision 5 - Added instructions for implementation / actuation of new gai-tronics alarm - emergency plan activation and made human factors improvements. (J. R. Walker, 01/18/00)

Revision 4 - Clarified records required, revised EC turnover process, changed "at the site" to "within the Owner Controlled Area", clarified use of field monitoring data for PARs, added guidance for completing the NRC notification form, and made editorial changes. (J. R. Walker, 11/02/99)

Revision 3 - Added instruction (signoff) to ensure operators pick up emergency dosimetry (DRDs). (M. Gilmore, 09/08/99)

Revision 2 - Removed reference to the rotating maintenance shift supervisor from discussion/information related to the duty call supervisor. (J. R. Walker, 07/01/99)



Revision	FRG Review Date	Approved By	Approval Date	S__OPS DATE _____ DOCT PROCEDURE DOCN EPIP-02 SYS _____ COMP COMPLETED ITM 5
0	12/15/97	J. Scarola Plant General Manager	12/15/97	
Revision	FRG Review Date	Approved By	Approval Date	
5	01/18/00	R. G. West Plant General Manager	01/18/00	
		N/A Designated Approver		

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1.0 PURPOSE

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.

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, 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.

2.0 REFERENCES/RECORDS REQUIRED/COMMITMENT DOCUMENTS

2.1 References

1. St. Lucie Plant Updated Final Safety Analysis Report (UFSAR) Unit 1 and Unit 2 (Section 9.5.A.7.2)
- §₁ 2. 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.

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2.0 REFERENCES/RECORDS REQUIRED/COMMITMENT DOCUMENTS
(continued)

2.1 (continued)

9. EPA 400-R-92-001, Manual of Protective Actions Guides and Protective Actions for Nuclear Incidents, October, 1991.

10. St. Lucie Plant General Policy PSL-110, Emergency Response.

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.** State Notification Form
- 3.** NRC Notification Form
- 4.** Protective Action Recommendation Worksheet

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)

¶₅ **4.** PMAI PM96-05-233, (Off-site Notification Process).

¶₆ **5.** Condition Report CR 96-2389, (Off-site Dose Calculations).

¶₇ **6.** Condition Report CR 98-1536 (EC Responsibilities Remain in the Control Room).

¶₈ **7.** PMAI PM98-09-006 (Control of NLOs Under E-Plan).

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2.0 REFERENCES/RECORDS REQUIRED/COMMITMENT DOCUMENTS
(continued)

2.3 (continued)

- ¶₉ 8.** Condition Report CR 99-1406 (Field Operator Dosimetry Under E-Plan).
- ¶₁₀ 9.** PMAI PM99-10-191, Condition Report CR 99-1656 (Quality Records, Downpower Guidance Due to Hurricanes).
- ¶₁₁ 10.** PMAI PM99-10-142, Condition Report CR 99-1647 (EC Turnover).
- ¶₁₂ 11.** PMAI PM99-09-016, (PARs Based on FMT Data, Completion of NRC Notification Form).
- ¶₁₃ 12.** PMAI PM00-01-043, (Gai-Tronics E-Plan Alarm). /R5

3.0 RESPONSIBILITIES

- 3.1** The Nuclear Plant Supervisor (NPS) and the shift operating staff represent the first line of response to any developing emergency condition. The primary responsibility of the NPS is to control the condition as well as possible.
- 3.2** The NPS upon declaration of an emergency classification becomes the Emergency Coordinator (EC). The NPS 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.

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4.0 DEFINITIONS

4.1 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.

4.2 Release (during any declared emergency)

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

OR

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.

4.3 Notification Process - defined to include the following steps:

1. Declaration of the Emergency Class by the Emergency Coordinator.
2. Completion of the notification forms with the required information consistent with the declared Emergency Class.
3. Approval of the information by the Emergency Coordinator.
4. Transmission of the information on the notification forms within the time limits mandated by the regulations.
 - A. State and local agencies - within about 15 minutes of Declaration of the Emergency classification.

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4.0 DEFINITIONS (continued)

4.3 (continued)

4. (continued)

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.

- B.** NRC - 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)).

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5.0 INSTRUCTIONS

5.1 General Overview

17,11

1. Upon Declaration of an emergency classification the NPS 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, the duties and responsibilities of the EC, while a Control Room position, may be turned over to another qualified EC:

- If both Units are in classified events, the EC should locate in the Unit's Control Room with the highest classified event. 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 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 9, 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.

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5.0 INSTRUCTIONS

5.1 General Overview

2. (continued)

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.
- 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 protective actions.

3. Order of Succession

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

- A. Assistant Nuclear Plant Supervisor (ANPS) (from the affected unit)
- B. Nuclear Watch Engineer (NWE)
- C. Any other member of the plant staff with an active SRO license.

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5.0 INSTRUCTIONS (continued)

5.1 General Overview (continued)

4. Off-site Notification

- A. If, due to rapidly degrading conditions, Emergency Class escalation is known to be necessary, prior to completion of the notification process, Then:**

Provide the state and local authorities with the initial notification information by completing steps 1-5 of the State of Florida Notification Message Form.

Terminate the phone call by informing the state and local authorities that a new notification form will be transmitted within 15 minutes.

OR

Begin transmitting the new notification form describing the conditions associated with the upgraded Emergency Class.

Ensure that the NRC is informed following notification of the state and local authorities but no later than 60 minutes from the initial Emergency Class declaration (an open line will be established with the NRC at an Alert or higher Emergency Class).

- 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, a new classification should NOT be declared. The event should be issued as an update at the earliest practical time.**
- 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, the new classification would be declared and promptly, within the regulatory time limits, issued to the state, counties and NRC.**

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5.0 INSTRUCTIONS (continued)

5.1 General Overview (continued)

5. Off-site Communication Content

During initial notification, the information provided in describing the emergency should be brief yet descriptive enough for the off-site authorities to gain an understanding of the event. It should be clear from the incident description which Emergency Action Level (EAL) has necessitated the emergency declaration. Wording should be as non-technical as possible with no abbreviations (e.g., reactor coolant pump instead of RCP). Potential for degradation of plant conditions is always of interest to the off-site authorities. Proper, accurate information will preclude the need for follow-up information or numerous questions from off-site authorities.

6. Off-site Communication Updates

Updates to off-site authorities may be more detailed than initial notifications, but should remain in layman's terms. The state and local authorities should be updated upon any significant change in plant status (e.g., start or termination of a release, loss of major plant equipment, loss of off-site or on-site power, etc.) in addition, routine updates should be made every 60 minutes for an Alert or higher emergency declaration. The update frequency may be changed if agreed to by off-site authorities and FPL, in advance. Long, detailed explanations of plant systems or reactor theory should be avoided. If prompted for this kind of information by the State Duty Officer, refer him to the Nuclear Division Duty Officer (NDDO).

¶₁ If erroneous information is transmitted to off-site authorities 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.

¶₁ If erroneous information is transmitted to off-site authorities, and the error is discovered after event termination, the Licensing Department should be consulted on the need and method for contacting the off-site authorities with corrected information.

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5.0 INSTRUCTIONS (continued)

5.1 General Overview (continued)

7. Emergency Follow-Up Information

All incoming calls should come via the State Warning Point (SWP) over the HOT RING DOWN (HRD) phone. If the HRD is inoperable, the SWP may use commercial telephone or ESATCOM. If an off-site authorities contacts the Plant without going through the SWP, request that they contact 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 authorities of the updated information, thus reducing the number of calls that may be directed to the Plant.

8. Protective Action Recommendations

Protective Action Recommendations (PARs) should be made utilizing all of the available data. This includes plant status and/or off-site dose projections. The most conservative recommendations should be made.

9. General Emergency - Minimum PARs

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 downwind sectors.

10. Security Event

A. Site security and Local Law Enforcement (LLEA) will take the lead in response to a Security Event in accordance with the Security Plan.

B. Based on the nature of the Security Event and as conditions warrant, the Emergency Coordinator may delay, postpone or institute special arrangements concerning, but not limited to:

Emergency Response Facility (ERF) activation

Local or Site Evacuation

Site or Radiation Controlled Area (RCA) access

Operator field activities

Unit shutdown

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5.0 INSTRUCTIONS (continued)

5.1 General Overview (continued)

10. Security Event (continued)

C. Intruder General Emergency - minimum PARs

If the 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 downwind sectors. Shelter all people in the remaining sectors from 2 to 5 miles and from 5 to 10 miles from the plant.

D. Watch Relief

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

11. Severe Weather Considerations

¶₁₁₀

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:

- 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.

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5.0 INSTRUCTIONS (continued)

5.1 General Overview (continued)

12. Drill Messages

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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5.0 INSTRUCTIONS (continued) TIME / INIT

5.2 Emergency Declaration Checklist

CAUTION

State and/or local authorities shall be notified 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.

1. The NPS shall declare the emergency to the Control Room staff and formally announce that he/she is the Emergency Coordinator (EC). ____/____

2. Notify plant personnel using Gai-tronics and boost function. ____/____

"Attention all plant personnel, Unit (1) (2) has declared (classification). Shift Technical Advisor and Duty Call Supervisor report to the Control Room immediately. All other plant personnel be aware and listen for further instructions. Limit radio and phone use until further notice." ____/____

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5.0 INSTRUCTIONS (continued)

TIME / INIT

5.2 Emergency Declaration Checklist (continued)

NOTE

The Duty Call Supervisor (DCS) is a specifically designated and trained supervisor responsible for assisting the Emergency Coordinator (EC) in making notifications and calls to the Emergency Response Organization (ERO).

3. Complete the appropriate Emergency Classification Section Checklist (attached):

A. Section 5.3 (Notification of) Unusual Event Checklist

___/___

B. Section 5.4 Alert Checklist

___/___

C. Section 5.5 Site Area or General Emergency Checklist

___/___

/R5

END OF SECTION 5.2

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5.0 INSTRUCTIONS (continued)

TIME / INIT

5.3 UNUSUAL EVENT CHECKLIST

/R5

Date ___/___/___
Message # _____

NOTE

- Complete a new checklist for each notification made during an Unusual Event emergency.
- The terms "release" and "notification" have specific definitions in Section 4.0 of this procedure.

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1. If a radioactive release has occurred or is in progress, Then notify Chemistry to promptly perform off-site dose calculations per EPIP-09, Off-site Dose Calculations, and report results to the EC. If Chemistry is unavailable, Then have the DCS call out a TSC Dose Assessor. _____/_____
2. If evacuation of an area is necessary, Then initiate a local evacuation in accordance with EPIP-07, Conduct of Evacuations/Assembly. (Refer to Attachment 8, Criteria for Evacuation.) _____/_____
3. Mobilize emergency response personnel to respond as required using Gai-tronics and boost function. _____/_____

NOTE

Attachment 3, Directions for Completing the State of Florida Notification Message Form for Nuclear Power Plants, may be helpful in performing the following step. The Duty Call Supervisor (DCS) may perform this step.

4. Prepare the State of Florida Notification Message Form (Attachment 2) including Protective Action Recommendations. _____/_____

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5.0 INSTRUCTIONS (continued)

TIME / INIT

5.3 UNUSUAL EVENT CHECKLIST (continued)

NOTE

If Emergency Class escalation is known to be necessary, Then terminate the notification after line 5 of the State of Florida Notification Message Form.

OR

Begin transmitting the information from the new notification form describing the conditions associated with the upgraded emergency class.

5. Notify State Warning Point (SWP) within 15 minutes of the declaration of the emergency. This may be accomplished by the DCS. ____/____

A. Using the State HOT RING DOWN (HRD) Phone, dial 100.

B. When the State answers, provide the information from the State of Florida Notification Message Form.

C. If the HRD is inoperable, Then go to the Alternate Notification Methods at the end of this checklist.

6. Ensure notification of Plant Management, Security and the Nuclear Division Duty Officer (NDDO). This may be accomplished by the DCS. ____/____

7. Prepare the NRC Event Notification Worksheet. ____/____

8. Notify the NRC via the Emergency Notification System (ENS) phone immediately after notification of the state and counties. This shall be accomplished within one hour. This may be accomplished by the DCS. ____/____

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5.0 INSTRUCTIONS (continued)

TIME / INIT

5.3 UNUSUAL EVENT CHECKLIST (continued)

9. Reassess corrective and protective actions. Verify assigned activities are under way and proper progress is being made. Reassign personnel and emergency teams as necessary.
10. Continue to assess conditions and review any changes against the Emergency Action Levels (EALs) in EPIP-01, Classification of Emergencies.
11. Reclassify the event as necessary and follow instructions in the appropriate checklist.

1/2

NOTE
New notification forms shall be completed for all updates.

12. If the classification is unchanged but a significant change in plant conditions has occurred, Then start a new Unusual Event Checklist, prepare notification forms and make the appropriate notifications as soon as possible. ___/___
13. If the event can be terminated, Then complete the notification forms (State, NRC) and notify the following:

State Warning Point	___/___
Plant Management	___/___
Security	___/___
NDDO	___/___
NRC	___/___

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5.0 INSTRUCTIONS (continued) TIME / INIT

5.3 UNUSUAL EVENT CHECKLIST (continued)

14. Alternate Notification Methods (recommended format):

NOTE

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

A. Alternate 1 - Commercial phone

Call the State Warning Point using the phone number in the St. Lucie Plant Emergency Response Directory (ERD). Announce "This is St. Lucie Unit ____ Nuclear Plant with an emergency declaration. My callback number is _____."

Hang up the phone and standby for the callback. When the State Warning Point gives the go-ahead, provide the information from the State of Florida Notification Message Form. _____/_____

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Request callback to verify that State Warning Point has notified St. Lucie and Martin Counties and the Bureau of Radiation Control. _____/_____

B. Alternate 2 - ESATCOM

Hold down the 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.

Announce "State Warning Point, this is St. Lucie Unit _____," then release the button in order to listen.

When the State Warning Point acknowledges, announce "State Warning Point, this is St. Lucie Unit _____. (classification), repeat (classification)."

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5.0 INSTRUCTIONS (continued)

TIME / INIT

5.3 UNUSUAL EVENT CHECKLIST (continued)

14. Alternate Notification Methods (recommended format): (continued)

B. Alternate 2 - ESATCOM (continued)

When the State Warning Point gives the go-ahead, provide the information from the State of Florida Notification Message Form.

Announce "St. Lucie clear" at the end of the conversation. _____/_____

C. Alternate 3 - Local Government Radio (LGR) communication to St. Lucie and Martin County Emergency Operations Centers (EOCs) with relay to the State Warning Point.

On channel 2, contact the county EOCs by depressing the transmit button and announcing "St. Lucie County EOC, this is St. Lucie Nuclear Unit _____. Over."

When St. Lucie County replies, direct them to standby while you contact Martin County.

When both counties are online, announce "Martin and St. Lucie County EOCs, this is St. Lucie Nuclear Unit ____ declaring a (classification), repeat (classification). I am standing by to transmit State of Florida Notification Message Form information when you are ready to copy. Over."

When the counties give the go-ahead, provide the information from the State of Florida Notification Message Form.

End the conversation by announcing "This is St. Lucie Unit _____, KNGR 874, over and out." _____/_____

15. All Unusual Event Checklist items completed/satisfied. _____/_____ /R5

END OF SECTION 5.3

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5.0 INSTRUCTIONS (continued)

TIME / INIT

5.4 ALERT CHECKLIST

/R5

Date / /
 Message #

- | |
|--|
| NOTE |
| <ul style="list-style-type: none"> • For assistance with control of Non-licensed Operators (NLOs), refer to: <ul style="list-style-type: none"> ■ Attachment 10, Re-entry Guidelines. ■ Attachment 11, Basis for Exposure Limits for Emergency Response Personnel. • Complete a new checklist for each notification made during an Alert emergency. • The terms "release" and "notification" have specific definitions in Section 4.0 of this procedure. |

¶₁₆

1. If a radioactive release has occurred or is in progress, Then notify Chemistry to promptly perform off-site dose calculations per EPIP-09, Off-site Dose Calculations, and report results to the EC. If Chemistry is unavailable, Then have the DCS call out a TSC Dose Assessor.

 /

2. If evacuation of an area is necessary, Then initiate a local evacuation in accordance with EPIP-07, Conduct of Evacuations/Assembly. (Refer to Attachment 8, Criteria for Evacuation.)

 /

¶₁₃

3. Sound the Emergency Plan (E-Plan) Actuation Alarm (N/A for updates).

 /

/R5

4. Notify plant personnel of the emergency declaration using Gai-tronics and boost function (N/A for updates).

"Attention all plant personnel, Unit (1) / (2) has declared an ALERT."

REVISION NO.: 5	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR	PAGE: 24 of 66
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5.0 INSTRUCTIONS (continued) TIME / INIT

5.4 ALERT CHECKLIST (continued)

4. (continued)

"All emergency response organization personnel report at once to your assigned emergency response facility."

"All non-emergency response organization personnel report to your normal work location or contact your supervisor."

Repeat the announcement. ____/____

1/2

5. If a release is in progress, Then review personnel access with Health Physics personnel and notify Security personnel with any special instructions (N/A for updates). ____/____

6. Notify the DCS to initiate staff augmentation in accordance with EPIP-03, "Emergency Response Organization Notification/ Staff Augmentation." (N/A for updates.) ____/____

NOTE

Attachment 3, Directions for Completing the State of Florida Notification Message Form for Nuclear Power Plants, may be helpful in performing the following step. The DCS may perform this step.

7. Prepare the State of Florida Notification Message Form (Attachment 2) including Protective Action Recommendations. ____/____

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5.0 INSTRUCTIONS (continued) TIME / INIT

5.4 ALERT CHECKLIST (continued)

NOTE

If Emergency Class escalation is known to be necessary, Then terminate the notification after line 5 of the State of Florida Notification Message Form.

OR

Begin transmitting the information from the new notification form describing the conditions associated with the upgraded emergency class.

- 8. Notify State Warning Point (SWP) within 15 minutes of declaration of the emergency. This may be accomplished by the DCS. ___/___
 - A. Using the State HOT RING DOWN (HRD) Phone, dial 100.
 - B. When the State answers, provide the information from the State of Florida Notification Message Form.
 - C. If the HRD is inoperable, Then go to the Alternate Notification Methods at the end of this checklist.

- 9. Verify notification of Plant Management, Security and the NDDO. This may be accomplished by the DCS. ___/___

- 10. Prepare the NRC Event Notification Worksheet (N/A if an open line to NRC is established). ___/___ /R5

- 11. Notify the NRC via the Emergency Notification System (ENS) phone immediately after notification to the State and counties. This shall be accomplished within one hour. This may be accomplished by the DCS. ___/___

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5.0 INSTRUCTIONS (continued) TIME / INIT

5.4 ALERT CHECKLIST (continued)

12. Initiate the Operations Department Accountability Aid for both Unit 1 and Unit 2 and provide this list to the TSC when requested (N/A for updates). ____/____

11₉ **13.** Ensure Operations field personnel have returned to the Control Room to obtain emergency Electronic Personal Dosimetry (EPD) from the HP Kit. ____/____

14. Reassess corrective and protective actions. Verify assigned activities are under way and proper progress is being made. Reassign personnel and emergency teams as necessary.

15. Continue to assess conditions and review any changes against the Emergency Action Levels (EALs) in EPIP-01, Classification of Emergencies.

16. Reclassify the event as necessary and follow instructions in the appropriate checklist.

11₂

NOTE New notification forms shall be completed for all updates.

17. If the classification is unchanged but a significant change in plant conditions has occurred, Then start a new Alert Checklist, prepare notification forms and make the appropriate notifications as soon as possible. ____/____

18. If a State/Local notification has not been completed in the last 60 minutes, Then provide a routine update. Start a new notification form and make the appropriate notifications. ____/____

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5.0 INSTRUCTIONS (continued)

TIME / INIT

5.4 ALERT CHECKLIST (continued)

19. If the event can be terminated, Then complete the notification forms (State, NRC) and notify the following:

- State Warning Point _____/_____
- Plant Management _____/_____
- Security _____/_____
- NDDO _____/_____
- NRC _____/_____

20. Alternate Notification Methods (recommended format):

NOTE

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

A. Alternate 1 - Commercial phone

Call the State Warning Point using the phone number in the St. Lucie Plant Emergency Response Directory (ERD). Announce "This is St. Lucie Unit _____ Nuclear Plant with an emergency declaration. My callback number is _____."

Hang up the phone and standby for the callback. When the State Warning Point gives the go-ahead, provide the information from the State of Florida Notification Message Form. _____/_____

13

Request callback to verify that State Warning Point has notified St. Lucie and Martin Counties and the Bureau of Radiation Control. _____/_____

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5.0 INSTRUCTIONS (continued)

TIME / INIT

5.4 ALERT CHECKLIST (continued)

20. Alternate Notification Methods (recommended format): (continued)

B. Alternate 2 - ESATCOM

Hold down the 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.

Announce "State Warning Point, this is St. Lucie Unit _____," then release the button in order to listen.

When the State Warning Point acknowledges, announce "State Warning Point, this is St. Lucie Unit _____ (classification), repeat (classification)." When the State Warning Point gives go-ahead, provide the information from the State of Florida Notification Message Form.

Announce "St. Lucie clear" at the end of the conversation.

_____/____

C. Alternate 3 - Local Government Radio (LGR) communication to St. Lucie and Martin County Emergency Operations Centers (EOCs) with relay to the State Warning Point.

On channel 2, contact the county EOCs by depressing the transmit button and announcing "St. Lucie County EOC, this is St. Lucie Nuclear Unit _____. Over." When St. Lucie County replies, direct them to standby while you contact Martin County.

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5.0 INSTRUCTIONS (continued)

TIME / INIT

5.4 ALERT CHECKLIST (continued)

20. Alternate Notification Methods (recommended format): (continued)

C. (continued)

When both counties are online, announce "Martin and St. Lucie County EOCs, this is St. Lucie Nuclear Unit ____ declaring a (classification), repeat (classification). I am standing by to transmit State of Florida Notification Message Form information when you are ready to copy. Over."

When the counties give the go-ahead, provide the information from the State of Florida Notification Message Form.

End the conversation by announcing "This is St. Lucie Unit ____, KNGR 874, over and out." _____ / _____

21. All Alert Checklist items completed/satisfied.

_____ / _____ /R5

END OF SECTION 5.4

REVISION NO.: 5	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR	PAGE: 30 of 66
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5.0 INSTRUCTIONS (continued)

TIME / INIT

5.5 SITE AREA OR GENERAL EMERGENCY CHECKLIST

/R5

Date ____/____/____
Message # _____

NOTE

- For assistance with control of Non-licensed Operators (NLOs), refer to:
 - Attachment 10, Re-entry Guidelines
 - Attachment 11, Basis for Exposure Limits for Emergency Response Personnel
- Complete a new notification form for each notification made during a Site Area Emergency or General Emergency.
- The terms "release" and "notification" have specific definitions in Section 4.0 of this procedure.

¶₁₆

1. If a radioactive release has occurred or is in progress, Then notify Chemistry to promptly perform off-site dose calculations per EPIP-09, Off-site Dose Calculations, and report results to the Emergency Coordinator. If Chemistry is unavailable, Then have the DCS call out a TSC Dose Assessor. _____/_____
2. If a radioactive release has occurred or is in progress, Then identify wind direction. _____/_____

NOTE

When the EOF is declared operational AND the Recovery Manager has assumed responsibility, Then notifications and PARs will be performed from the EOF.

¶₁₂

3. If a release is in progress, Then review personnel access with Health Physics personnel and notify Security personnel with any special instructions (N/A for updates). _____/_____

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5.0 INSTRUCTIONS (continued)

TIME / INIT

5.5 SITE AREA OR GENERAL EMERGENCY CHECKLIST (continued)

¶₁₃

4. If the Technical Support Center, Operational Support Center and Emergency Operations Facility are **NOT activated, Then:**

A. Sound the Emergency Plan (E-Plan) Activation Alarm (N/A for updates).

____/____

B. Notify plant personnel of the emergency declaration using Gai-tronics and boost function (N/A for updates).

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

"All emergency response organization personnel report at once to your assigned emergency response facility."

____/____

C. Repeat Steps A and B above (N/A for updates).

____/____

5. If the site is **NOT evacuated, Then sound the Site Evacuation Alarm.**

____/____

/R5

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5.0 INSTRUCTIONS (continued) TIME / INIT

5.5 SITE AREA OR GENERAL EMERGENCY CHECKLIST (continued)

NOTE

To provide a clear announcement, the following step should be read and the content of the announcement determined prior to starting the announcement.

6. Make the necessary plant announcement using Gai-tronics and boost function:

A. If done in Step 5.5.4 above, Then GO TO Step 5.5.6.B.

/R5

OR

/R5

Announce the following (N/A for updates):

/R5

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

____/____

/R5

NOTE

An alternate off-site Assembly Area at the Jensen Beach parking area is available if the wind direction is from 146° to 270°.

B. If the site is **NOT evacuated and there is **NOT** or has **NOT** been a radiological release, Then announce the following:**

"All non-emergency response organization personnel are to commence evacuation of the Owner Controlled Area, report to your vehicle and proceed to your homes."

OR

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5.0 INSTRUCTIONS (continued)	<u>TIME / INIT</u>
5.5 <u>SITE AREA OR GENERAL EMERGENCY CHECKLIST</u> (continued)	
6. (continued)	
B. (continued)	
<p>If the site is NOT evacuated and there is or has been radiological release, <u>Then</u> announce the following:</p>	
<p>"All non-emergency response organization personnel are to commence evacuation of the Owner Controlled Area. Persons leaving the site are to proceed <u>(North)/(South)</u> away from the plant to <u>(Jaycee Park)/(Jensen Beach Parking Area)</u> for contamination check, accountability and further instructions."</p>	
7. <u>If a SITE AREA EMERGENCY, Then REPEAT</u> Steps 5.5.6.A and 5.5.6.B above (N/A for updates).	/R5
OR	/R5
<u>If a GENERAL EMERGENCY, Then REPEAT</u> Step 5.5.6.A above (N/A for updates).	/R5
8. <u>If the site is NOT</u> evacuated, <u>Then</u> order Security to ensure evacuation of the Owner Controlled Area and to report personnel accountability as soon as possible (N/A for updates).	_____/_____/R5
9. <u>If the TSC and OSC are NOT</u> activated, <u>Then</u> notify the DCS to initiate staff augmentation in accordance with EPIP-03, Emergency Response Organization Notification/Staff Augmentation (N/A for updates).	_____/_____/R5

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5.0 INSTRUCTIONS (continued)

TIME / INIT

5.5 SITE AREA OR GENERAL EMERGENCY CHECKLIST (continued)

CAUTION

PARs are always required for General Emergencies and may be required for lesser emergencies.

NOTE

Attachment 3, Directions for Completing the State of Florida Notification Message Form for Nuclear Power Plants, may be helpful in performing the following step. The DCS may perform this step.

10. Prepare the State of Florida Notification Message Form (Attachment 2).

____/____

- A. Include PARs.**
- B. If the site has been evacuated since the last notification, Then include the evacuation route and offsite Assembly Area location (if utilized) in the incident description.**

NOTE

If Emergency Class escalation is known to be necessary, Then terminate the notification after line 5 of the State of Florida Notification Message Form.

OR

Begin transmitting the information from the new notification form describing the conditions associated with the upgraded emergency class.

11. Notify State Warning Point (SWP) within 15 minutes of declaration of the emergency. This may be accomplished by the DCS.

____/____

- A. Using the State HOT RING DOWN (HRD) Phone, dial 100.**

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5.0 INSTRUCTIONS (continued)

TIME / INIT

5.5 SITE AREA OR GENERAL EMERGENCY CHECKLIST (continued)

11. (continued)

B. When the State answers, provide the information from the State of Florida Notification Message Form.

C. If the HRD is inoperable, Then go to the Alternate Notification Methods at the end of this checklist.

12. Verify notification of Plant Management, Security and NDDO. This may be accomplished by the DCS. _____/_____

13. Prepare the NRC Event Notification Worksheet (N/A if an open line to NRC is established). _____/_____ /R5

14. Notify the NRC via the Emergency Notification System (ENS) phone immediately after notification of the State and counties. This shall be accomplished within one hour. This may be accomplished by the DCS. _____/_____

15. Initiate the Operations Department Accountability Aid for both Unit 1 and Unit 2 and provide this list to the TSC when requested (N/A for updates). _____/_____

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

17. Complete notification forms and make notification to State Warning Point and NRC when the evacuation is complete (N/A for updates). _____/_____

16

18. Ensure Operations field personnel have returned to the Control Room or OSC to obtain emergency Electronic Personal Dosimetry (EPD) (N/A for updates). _____/_____ /R5

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5.0 INSTRUCTIONS (continued) TIME / INIT

5.5 SITE AREA OR GENERAL EMERGENCY CHECKLIST (continued)

- | | | |
|-----------|---|---------------|
| 18 | 19. Direct that all Non-licensed Operators (NLOs), from both Units, report to the OSC (when operational) following evacuation of the Owner Controlled Area (N/A for updates). | ____/____ |
| | 20. Reassess corrective and protective actions. Verify assigned activities are under way and proper progress is being made. Reassign personnel and emergency teams as necessary. | ____/____ /R5 |
| | 21. Continue to assess conditions and review any changes against the Emergency Action Levels (EALs) in EPIP-01, Classification of Emergencies. | ____/____ /R5 |
| | 22. Upgrade to a General Emergency, as necessary. Start new checklist upon upgrading. | ____/____ /R5 |
| | 23. <u>If</u> the classification is unchanged but a significant change in plant conditions has occurred <u>AND</u> the EOF is NOT operational, <u>Then</u> start a new Site Area or General Emergency Checklist, prepare notification forms and make the appropriate notifications as soon as possible. | ____/____ |

CAUTION

Only the Recovery Manager (RM) can authorize the downgrading of emergency classifications from Site Area or General Emergency.

NOTE

If the EOF is not operational at this time, contact Recovery Manager for information concerning turnover of notification and PAR responsibilities.

- | | |
|--|-----------|
| 24. <u>If</u> the event can be downgraded or terminated, <u>Then</u> discuss with Recovery Manager. | ____/____ |
|--|-----------|

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5.0 INSTRUCTIONS (continued)

TIME / INIT

5.5 SITE AREA OR GENERAL EMERGENCY CHECKLIST (continued)

¶₂

NOTE
New notification forms shall be completed for all updates.

25. If an off-site notification has not been completed in the last 60 minutes AND the EOF is **NOT** operational, Then provide a routine update. Start a new notification form and make the appropriate notifications.

____/____

26. Alternate Notification Methods (recommended format):

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

A. Alternate 1 - Commercial phone

Call the State Warning Point using the phone number in the St. Lucie Plant Emergency Response Directory (ERD). Announce "This is St. Lucie Unit _____ Nuclear Plant with an emergency declaration. My callback number is _____."

Hang up the phone and standby for the callback. When the State Warning Point gives the go-ahead, provide the information from the State of Florida Notification Message Form.

____/____

¶₃

Request callback to verify that State Warning Point has notified St. Lucie and Martin Counties and the Bureau of Radiation Control.

____/____

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5.0 INSTRUCTIONS (continued)

TIME / INIT

5.5 SITE AREA OR GENERAL EMERGENCY CHECKLIST (continued)

26. Alternate Notification Methods (recommended format): (continued)

B. Alternate 2 - ESATCOM

Hold down the 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.

Announce "State Warning Point, this is St. Lucie Unit _____," then release the button in order to listen.

When the State Warning Point acknowledges, announce "State Warning Point, this is St. Lucie Unit _____ (classification), repeat (classification)."

When the State Warning Point gives go-ahead, provide the information from the State of Florida Notification Message Form.

Announce "St. Lucie clear" at the end of the conversation.

____/____

C. Alternate 3 - Local Government Radio (LGR) communication to St. Lucie and Martin County Emergency Operations Centers (EOCs) with relay to the State Warning Point.

On channel 2, contact the county EOCs by depressing the transmit button and announcing "St. Lucie County EOC, this is St. Lucie Nuclear Unit _____. Over." When St. Lucie County replies, direct them to standby while you contact Martin County.

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5.0 INSTRUCTIONS (continued)

TIME / INIT

5.5 SITE AREA OR GENERAL EMERGENCY CHECKLIST (continued)

26. Alternate Notification Methods (recommended format): (continued)

C. (continued)

When both counties are online, announce "Martin and St. Lucie County EOCs, this is St. Lucie Nuclear Unit ____ declaring a (classification), repeat (classification). I am standing by to transmit State of Florida Notification Message Form information when you are ready to copy. Over."

When the counties give the go-ahead, provide the information from the State of Florida Notification Message Form.

End the conversation by announcing "This is St. Lucie Unit ____, KNGR 874, over and out."

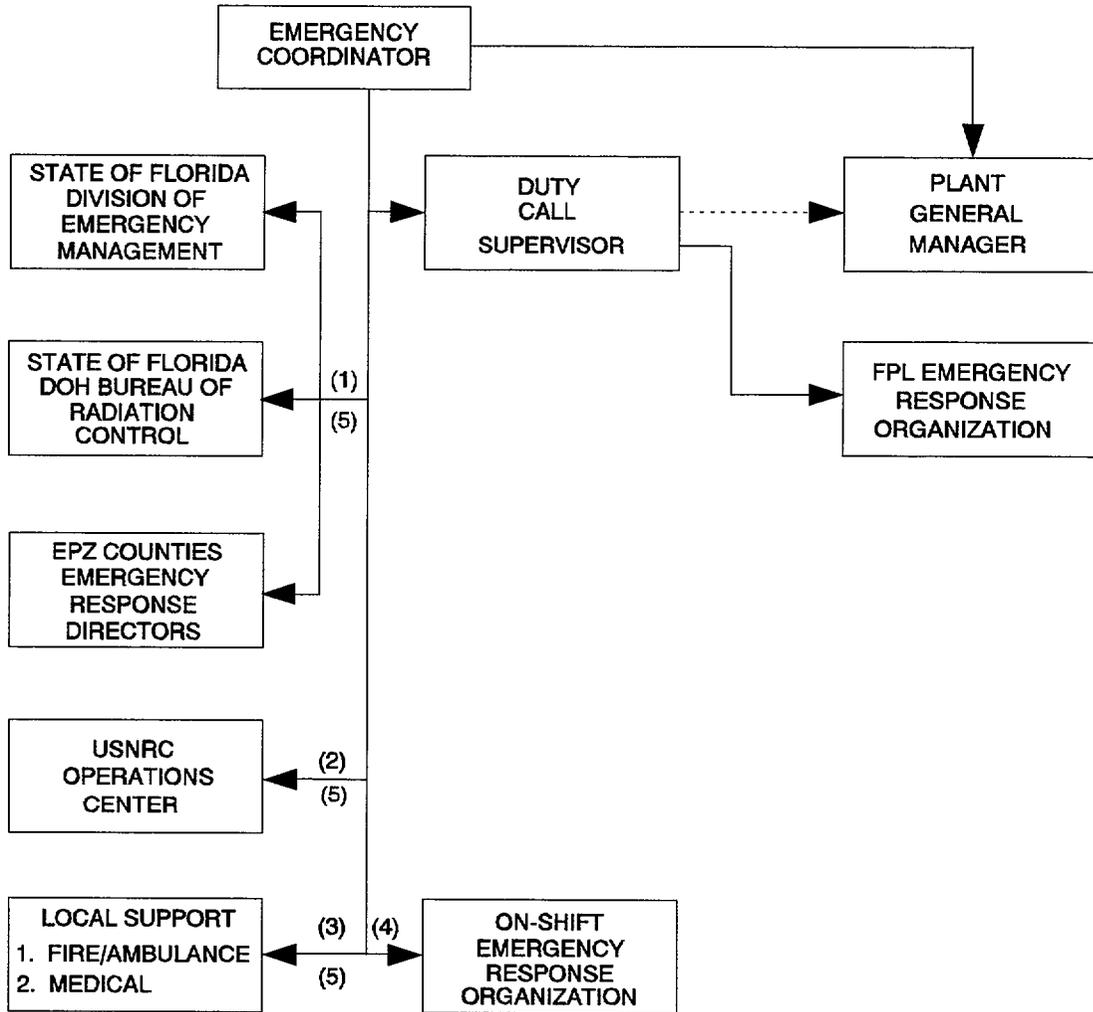
____/____

27. All Site Area or General Emergency Checklist items completed/satisfied.

____/____ /R5

END OF SECTION 5.5

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)
- (5) May be performed by the Duty Call Supervisor.

(EPIP-02A.WPG)

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ATTACHMENT 3
DIRECTIONS FOR COMPLETING THE STATE OF FLORIDA
NOTIFICATION MESSAGE FORM FOR NUCLEAR POWER PLANTS

(Page 1 of 4)

Starting at the top of the form, check either "THIS IS A DRILL" or "THIS IS AN ACTUAL EMERGENCY."

ITEM **ENTRY**

- 1A Time/Date - Enter the time and date **when the transmission of data begins.**
- 1B Reported by - Enter the name and title of the person transmitting the information.
- 1C Message Number - Enter the sequential number of the notification being made. The facility from which the notifications are being made may change as the event progresses; however, the number will remain sequential throughout the event.
- 1D From - Check the facility from which the notification is being made.
- 2 SITE - Check the unit that is making the emergency declaration. If both units are affected, check both blocks.
- 3 ACCIDENT CLASSIFICATION - Check the **current** emergency classification declared.
- 4 CURRENT EMERGENCY DECLARATION - Enter the time and date when the current emergency classification was declared.
- 5 INCIDENT DESCRIPTION OR UPDATE - Enter a brief description of the initiating conditions for the emergency classification declared and any other current information regarding significant events which have occurred since the last notification was made. The information provided should be descriptive enough for the offsite agencies to understand which Emergency Action Level (EAL) has necessitated the emergency declaration. If practical, use the wording directly from the EAL. Wording should be non-technical, avoiding specific details such as electrical bus numbers, etc. The use of abbreviations and acronyms should be avoided. If possible, indicate if plant conditions are currently improving, stable, or degrading.

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ATTACHMENT 3
DIRECTIONS FOR COMPLETING THE STATE OF FLORIDA
NOTIFICATION MESSAGE FORM FOR NUCLEAR POWER PLANTS
 (Page 2 of 4)

ITEM ENTRY

- 6 INJURIES - If there are no injuries, enter "none" in the blanks for 6A and 6B. If there are injuries, check the appropriate block and enter the number of contaminated people in the blank beside 6A, and number of non-contaminated people in the blank beside 6B.
- 7 RELEASE STATUS - A release (during any declared emergency) is defined as:
- a. Any effluent monitor increase of (approximately) 10 times or one decade above pre-transient values, OR
 - b. 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.
- 7A No Release (Go to Item 11) - Check if no release is occurring, then continue at Item 11.
- 7B Potential (Possible) Release - A potential release refers to a condition where a release is probable. This is not meant as a catch-all category. Check this block if a release is probable, then continue at Item 11.
- 7C A release is occurring - expected duration - If a release is occurring, enter the expected duration of the release, in hours and minutes. If you cannot predict the duration of the release, then enter "Unknown" in the blank.
- 7D A release occurred, but stopped - duration - If a release has occurred, enter approximately how long the release lasted, in hours and minutes.

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ATTACHMENT 3
DIRECTIONS FOR COMPLETING THE STATE OF FLORIDA
NOTIFICATION MESSAGE FORM FOR NUCLEAR POWER PLANTS
 (Page 3 of 4)

ITEM ENTRY

NOTE

Items 8, 9 and 10 may be omitted from the initial notification IF the information is not available within the 15 minute initial notification time frame. If a release has occurred, this information must be included on the next message.

8 RELEASE RATE - This section requires the completed results of dose assessment.

8A NOBLE GASES - Check this block for a noble gas release. Write the release rate (in curies per second) in the space. Check either "Measured" or "Default" to indicate how the release rate was determined.

8B IODINES - Check this block for an iodine release. Write the release rate (in curies per second) in the space. Check either "Measured" or "Default" to indicate how the release rate was determined.

8C Release within normal operating limits - Check this block if the release is below Tech Spec limits.

9 TYPE OF RELEASE IS - Check the type of release. If known, enter the specific nuclide(s) being released.

10 PROJECTED OFFSITE DOSE RATE - This section requires the completed results of dose assessment.

Enter the projected THYROID DOSE RATE (CDE) and the TOTAL DOSE RATE (TEDE) in mrem/hr for the site boundary, 2, 5 and 10 mile distances.

11 METEOROLOGICAL DATA - This information is to be included on all notifications.

REVISION NO.: 5	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR	PAGE: 45 of 66
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ATTACHMENT 3
DIRECTIONS FOR COMPLETING THE STATE OF FLORIDA
NOTIFICATION MESSAGE FORM FOR NUCLEAR POWER PLANTS
 (Page 4 of 4)

- | <u>ITEM</u> | <u>ENTRY</u> |
|-------------|--|
| 11A | <u>Wind direction (from) _____ degrees</u> - Enter the wind direction as read from ERDADS (or the Met Tower Indicator Panel on Unit 1). |
| 11B | <u>Sectors affected _____</u> - Enter the letters of the sectors affected, as determined from Attachment 4, using the wind direction from 11A. |
| 11C | <u>Wind speed _____ MPH</u> - Enter the wind speed as read from ERDADS (or the Met Tower Indicator Panel on Unit 1). |
| 11D | <u>Stability class _____</u> - Enter the stability class as determined from Attachment 4. |
| 12 | <u>UTILITY RECOMMENDED PROTECTIVE ACTIONS</u> - This section requires the completed results of a PAR Worksheet. This information must be approved by the Emergency Coordinator or the Recovery Manager. |
| 13 | <u>HAS EVENT BEEN TERMINATED?</u> - If the event has not been terminated, check block A. If the event has been terminated, check block B and enter the time and date of termination.

<u>EC Approval</u> - Have the EC review and approve the content of the form and provide the time and date. EC approval is required prior to transmitting the form. |
| 14 | <u>MESSAGE RECEIVED BY</u> - The State Warning Point will provide the name of the person who received your message, and the current time and date. |

END OF ATTACHMENT 3

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ATTACHMENT 4
DETERMINATION OF SECTORS AFFECTED AND STABILITY CLASS
(Page 1 of 1)

A. Affected Sectors

- Using the guide below, determine the Affected Sectors and enter in line 11B of the State Notification form.

NOTE

If the wind direction is directly on the edge of two sectors (e.g., 11°, 33°, 56°, etc.), an additional sector should be added to the Protective Action Recommendation (PAR). For example, if the wind direction is from 78°, then the affected sectors for the PAR should be L, M, N and P.

Wind From	Affected Sectors	Wind From	Affected Sectors	Wind From	Affected Sectors
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

B. Stability Class

- Enter Delta-T (60 meter minus 10 meter temperatures) _____ deg. F
- Using Delta-T (ΔT) and the guide below, determine the Stability Class and enter in line 11D of the State Notification form.

ΔT	Stability Class
ΔT less than or equal to -1.7	A
-1.7 less than ΔT less than or equal to -1.5	B
-1.5 less than ΔT less than or equal to -1.4	C
-1.4 less than ΔT less than or equal to -0.5	D
-0.5 less than ΔT less than or equal to +1.4	E
+1.4 less than ΔT less than or equal to +3.6	F
+3.6 less than ΔT	G

END OF ATTACHMENT 4

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ATTACHMENT 5

DETERMINATION OF PROTECTIVE ACTION RECOMMENDATIONS (PARs)

(Page 1 of 6)

A. Guidelines for Protective Action Recommendation (PARs) to Off-site Authorities

1. FPL is required to provide county and state governmental authorities with recommendations for protective action to be taken by the public during radiological emergencies at the St. Lucie Nuclear Power Plant.
2. The responsible authorities are the State of Florida Division of Emergency Management (DEM) and St. Lucie and Martin County Departments of Public Safety.
3. PARs should be made utilizing all of the available data. This includes plant conditions, off-site dose projections and/or field monitoring data. The more conservative PARs should be made.
4. Due to the large political and legal ramifications of these recommendations and the potential impact on FPL, the following format and content should be used:
 - a. If 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 affected sectors. (Affected sectors are the downwind sector plus the two adjacent sectors, three in total.)
 - b. 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 downwind sectors. Shelter all people in the remaining sectors from 2 to 5 miles and from 5 to 10 miles from the plant.
 - c. If the emergency has not been classified as a GENERAL EMERGENCY and the offsite doses are LESS THAN 500 mrem Total Dose (TEDE) and 1000 mrem Thyroid Dose (CDE) at 1 mile over the projected duration of the release, no protective action is recommended. This should be reported to DEM and other outside agencies who inquire as:

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ATTACHMENT 5
DETERMINATION OF PROTECTIVE ACTION RECOMMENDATIONS (PARs)
(Page 2 of 6)

A. (continued)

4. (continued)

c. (continued)

Based on our current assessment of all the information now available to us, Florida Power & Light Company recommends that you consider taking the following protective actions (PA) - NONE. This recommendation may change in the future, but we cannot now say when it may change or what it may change to.

B. Determining Protective Action Recommendations (PARs)

NOTE

If a controlled release is necessary to stabilize plant conditions or an uncontrolled release is anticipated, determine the approximate source term and duration of the release and the projected off-site doses prior to making any PARs.

1. In determining PARs, both plant conditions AND off-site doses must be considered. However, if a release has not occurred, then determine PARs based on plant conditions.
2. PARs Based on Plant Conditions
 - a. Refer to Attachment 6, Protective Action Recommendations.
 - b. Begin with the General Emergency question and proceed through the flowchart answering the questions at each prompt.
 - c. Upon completion of the flowchart, enter the PAR table and determine the PAR for each downwind distance.
 - d. Enter PARs into Line 1 of the table in Section C below.

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ATTACHMENT 5
DETERMINATION OF PROTECTIVE ACTION RECOMMENDATIONS (PARs)
 (Page 3 of 6)

B. (continued)

3. PARs Based on Off-site Dose Projections

NOTE

For purposes of this procedure and when discussing dose calculations, the terms projected and forecasted can be, and are used, interchangeably.

- a. Refer to Attachment 6, Protective Action Recommendations.
- b. PARs are based on the Thyroid Dose (line 7) and/or the Total Dose (line 18) from the Dose Calculation Worksheet in EPIP-09, Off-Site Dose Calculations. This same information is available, when using the Class A Model dose program, on the 10 Mile Standard Report in the Forecast Mode.
- c. For each downwind distance, enter the PAR table at the appropriate dose level and determine the PAR for that distance.
- d. Enter PARs into Lines 2a and 2b of the table in Section C below.

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ATTACHMENT 5
DETERMINATION OF PROTECTIVE ACTION RECOMMENDATIONS (PARs)
(Page 4 of 6)

B. (continued)

EXAMPLE

A release has occurred at the St. Lucie Plant. The wind direction is from 22 degrees and the projected off-site integrated (2 hr) Thyroid Dose (CDE) is 10,000 mrem at 1 mile, 2000 mrem at 2 miles and less than 1000 mrem at 5 miles. The plant is in a GENERAL EMERGENCY with no actual or projected core damage and no loss of physical control of the plant. The following PAR should be made:

Based on our current assessment of all the information now available to us, Florida Power & Light Company recommends that you consider taking the following protective actions:

- i. Evacuate all people between a 0 and 2 mile radius from the plant.*
- ii. Shelter all people between a 2 and 5 mile radius from the plant who are in sectors J, K and L.*
- iii. No protective action is recommended between a 5 and 10 mile radius from the plant.*

This recommendation may change in the future, but we cannot now say when it may change or what it may change to.

¶₁₂ 4. PARs Based on Field Monitoring Data

- a. Refer to Attachment 6, Protective Action Recommendations.
- b. PARs are based on Thyroid Dose Rate and/or the Total Dose Rate measured in the field. Field monitoring dose rates need to be multiplied times the expected duration of the release (default value is 2 hours) in order to determine projected doses.
 1. Thyroid Dose (CDE) = Field measured thyroid dose rate x expected duration of release.
 2. Total Dose Rate (TEDE) = Field measured Deep Dose Equivalent (DDE) + (0.04 x Thyroid Dose (CDE)).

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ATTACHMENT 5
DETERMINATION OF PROTECTIVE ACTION RECOMMENDATIONS (PARs)
(Page 5 of 6)

B. (continued)

4. (continued)

- c. Field monitoring results from near site sample locations need to be adjusted/extrapolated to the 1 mile distance. Sample results between 1 to 2 miles need to be adjusted/extrapolated to the 2 mile distance and results between 2 to 5 miles adjusted/extrapolated to the 5 mile distance.
- d. For each downwind distance, enter the PAR table at the appropriate dose level and determine the PAR for that distance.

CAUTION

Do NOT mix doses based on dose calculations with doses based on field measurements when determining PARs.

- 5. When available, both plume calculations and off-site monitoring results should be evaluated when making PARs. If significant discrepancies exist between field monitoring results and plume dispersion calculations, Then an evaluation of the discrepancy should be made, and the appropriate value should be selected in the determination of PARs.
- 6. PARs have been developed based on guidance in NUREG/BR-0150, Vol. 1 and EPA 400-R-92-001.

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ATTACHMENT 5
DETERMINATION OF PROTECTIVE ACTION RECOMMENDATIONS (PARs)
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C. Protective Action Recommendations (PARs)

NOTE

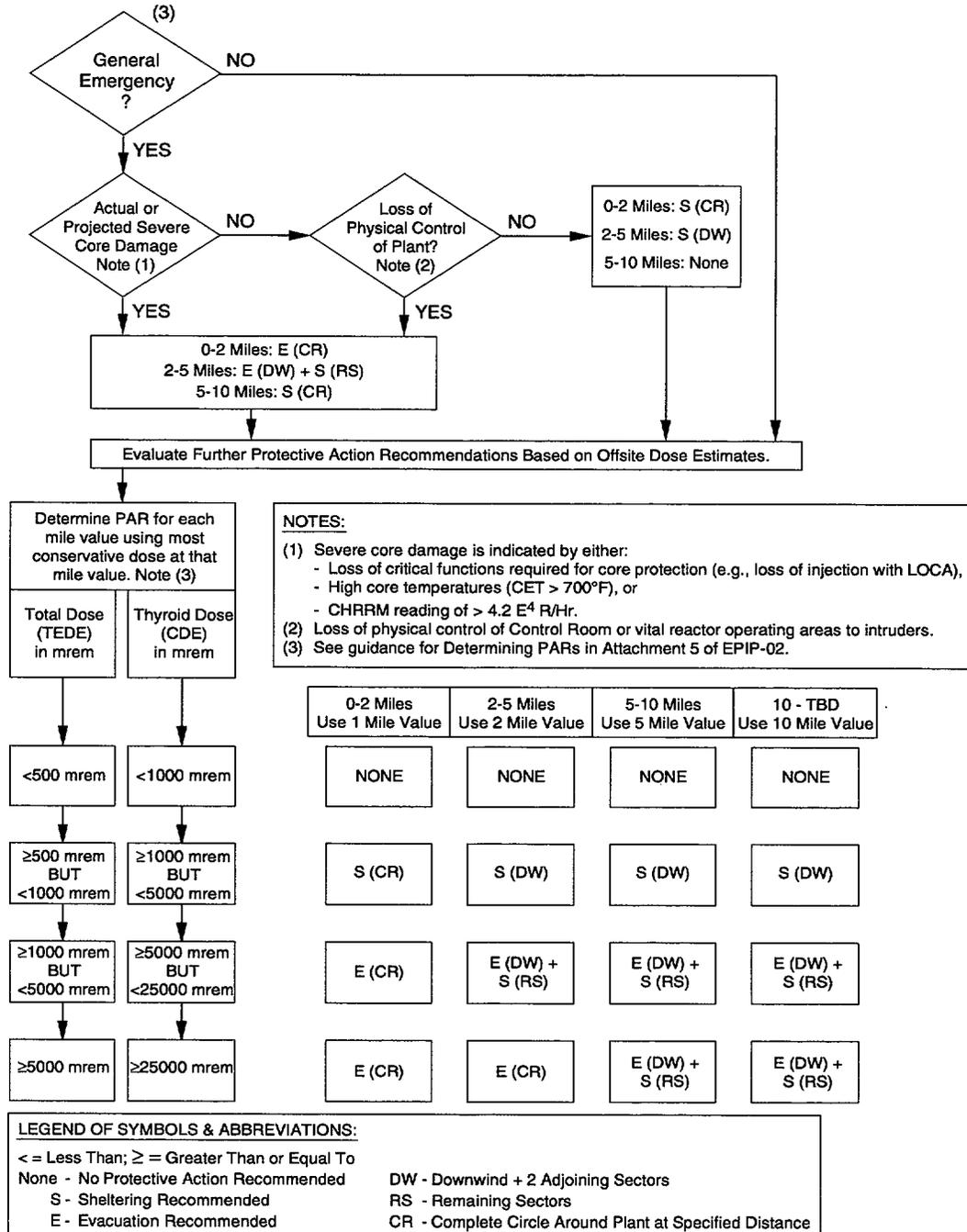
Actual PARs shall be the most conservative PARs based on plant conditions or off-site doses.

1. Complete the table below:
 - Step 1. Determine PARs based on Attachment 6, Protective Action Recommendations, and enter into line 1.
 - Step 2. Determine PARs based on Attachment 6, Protective Action Recommendations, and enter into lines 2a and 2b.

Protective Action Recommendations	Distance From Plant/Recommendation		
	0 - 2 Mile	2 - 5 Mile	5 - 10 Mile
Line 1. Plant Conditions			
Line 2a. Total Dose (TEDE)			
Line 2b. Thyroid Dose (CDE)			

2. Choose the most conservative PARs and record in Section 12 of the State of Florida Notification Message Form.

ATTACHMENT 6
PROTECTIVE ACTION RECOMMENDATIONS
(Page 1 of 1)



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ATTACHMENT 7
NRC EVENT NOTIFICATION WORKSHEET
(Page 1 of 2)

NDDO Contact's Name: _____

NRC Contact's Name: _____

EVENT NOTIFICATION WORKSHEET			
Notification Time	Facility or Organization FPL - St. Lucie Plant	Unit	Caller's Name
		Callback #: ENS _____ or (561) _____	
Event Time & Zone	Event Date	1 Hr. Non-Emergency 10 CFR 50.72(b)(1)	(v) Lost Offsite Comms
			(vi) Fire
Power/Mode Before	Power/Mode After	(i)(A) TS Required S/D	(vi) Toxic Gas
		(i)(B) TS Deviation	(vi) Rad Release
		(ii) Degraded Condition	(vi) Other Hampering Safe Op.
		(ii)(A) Unanalyzed Condition	4-hr. Non-Emergency 10 CFR 50.72(b)(2)
EVENT CLASSIFICATIONS		(ii)(B) Outside Design Basis	
		(ii)(C) Not Covered by OPs/EPs	(i) Degrade While S/D
General Emergency		(iii) Earthquake	(ii) RPS Actuation (scram)
Site Area Emergency		(iii) Flood	(ii) ESF Actuation
Alert		(iii) Hurricane	(iii)(A) Safe S/D Capability
Unusual Event		(iii) Ice/Hail	(iii)(B) RHR Capability
50.72 Non-Emergency		(iii) Lightning	(iii)(C) Control of Rad Release
Physical Security (73.71)		(iii) Tornado	(iii)(D) Accident Mitigation
Transportation		(iii) Other Natural Phenomenon	(iv)(A) Air Release > 2X App B
20.403 Material/Exposure		(iv) ECCS Discharge to RCS	(iv)(B) Liq Release > 2X App B
Other		(v) Lost ENS	(v) Offsite Medical
		(v) Lost Emerg. Assessment	(vi) Offsite Notification

DESCRIPTION

Include: Systems affected, actuations & their initiating signals, causes, effect of event on plant, actions taken or planned, etc.

Notifications NRC Resident	Yes	No	Will Be	Anything unusual or not understood?	Yes (Explain above)	No
State(s)				Did all systems function as required?	Yes	No (Explain above)
Local						
Other gov agencies				Mode of operation until corrected	Estimate for restart date:	Additional info on back?
Media press release						

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ATTACHMENT 7
NRC EVENT NOTIFICATION WORKSHEET
(Page 2 of 2)

ADDITIONAL INFORMATION

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 µCi/sec			0.01 Ci
Particulate			1 µCi/sec			1 mCi
Liquid (excluding tritium and dissolved noble gases)			10 µCi/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 & Units: Primary -	Secondary -

List of Safety Related Equipment Not Operational:

EVENT DESCRIPTION (Continued from front)

E. C. Approval _____ Time: _____ Date: ____/____/____

END OF ATTACHMENT 7

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ATTACHMENT 7A
GUIDELINE FOR COMPLETING THE
NRC EVENT NOTIFICATION WORKSHEET

(Page 1 of 2)

1.12

A. Contact information - to be completed following contact

1. Name of the NDDO contacted: - should be consistent with the NDDO duty schedule.
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. Event Notification Worksheet, Page 1

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. Callback # - 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.
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 7A
GUIDELINE FOR COMPLETING THE
NRC EVENT NOTIFICATION WORKSHEET
 (Page 2 of 2)

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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. Event Notification Worksheet, Page 2

1. Fill in as much of the information on the back of 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.

END OF ATTACHMENT 7A

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**ATTACHMENT 8
CRITERIA FOR EVACUATION**

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.

END OF ATTACHMENT 8

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ATTACHMENT 9
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 DCS.

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

Prior to leaving Control Room verify the status of the following:

1. Emergency classification
2. Off-site notifications

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ATTACHMENT 9
TURNOVER GUIDELINES
(Page 2 of 2)

Bring the following items to the Technical Support Center:

1. Copy of RCO log (entries from start of the event)
2. Completed notification forms (State and NRC)
3. Operations Accountability Aid (only if completed)

END OF ATTACHMENT 9

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ATTACHMENT 10
RE-ENTRY GUIDELINES
(Page 1 of 3)

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 public health and safety.

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.

- a. 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.
- b. Since teams may be dispatched from the OSC prior to evacuation of any plant areas, the OSC Supervisor and Health Physics Supervisor in the OSC (HPOSC) should evaluate the event in progress and determine the most likely trends in radiological conditions. If the event is likely to result in evacuation(s), due to radiological concerns, the teams should be dressed, equipped, and briefed, similarly to Re-entry Teams.

3. 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. Operator shall obtain an Electronic Personal Dosimeter (EPD) from the Health Physics Emergency Kit, if not done previously. Re-entry into the plant requires:

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ATTACHMENT 10
RE-ENTRY GUIDELINES
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3. (continued)

- a. The EC (initially the NPS) authorize the entry.
- b. A team of at least two individuals be formed (one person should be knowledgeable in the principles of radiation protection, (e.g., Health Physics Technician, Chemist, or Non-licensed Operator (NLO)).
- c. Maintenance of appropriate radiological and safety measures.
- d. Tracking the whereabouts of the team.

NLOs, from both Units, are to report to the OSC once it goes operational.

4. Evacuation ordered and with the OSC operational

- a. All field activities are re-entries and shall be coordinated and controlled by the OSC.
- b. Re-entry into an evacuated area shall be made only when authorized by the EC and under the direction of the TSC HP Supervisor (TSC HPS) and the HPOSC for one or more of the following reasons:
 1. To ascertain that all personnel who were in the affected area have been evacuated and to search for unaccounted for personnel.
 2. To assist in evacuating injured or incapacitated personnel from the affected area.
 3. To perform operations which mitigate the effect of the emergency or hazardous condition.
 4. To determine the nature and extent of the emergency and/or radiological conditions.
 5. To establish definite personnel exclusion area boundaries.

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ATTACHMENT 10
RE-ENTRY GUIDELINES

(Page 3 of 3)

5. The Re-entry Team members should be selected based on appropriate qualifications relevant to the purpose for the entry.
6. A Re-entry Team shall consist of at least two qualified persons, one of whom shall be knowledgeable in Health Physics procedures.
7. The most qualified (relative to the entry) person should be selected to serve as the Re-entry Team Leader. He/she should be fully briefed concerning the nature of the emergency and the expectations for the entry.
8. All Re-entry Team members shall wear protective clothing, dosimeters, respiratory devices, and other protective devices as specified by the HPOSC.
9. A contingency Re-entry Team should be developed consisting of representatives from each of the maintenance disciplines and Health Physics. This team anticipates the need for a high priority, rapid response request from the EC/TSC.

END OF ATTACHMENT 10

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ATTACHMENT 11

**§1 BASIS FOR EXPOSURE LIMITS FOR
EMERGENCY RESPONSE PERSONNEL**

(Page 1 of 3)

Exposure to emergency response personnel should be maintained As Low As Reasonably Achievable (ALARA). Actions taken during an emergency should take into consideration the amount of exposure required to accomplish the task versus the potential benefit to the public health and safety.

Conditions may warrant re-entry into high radiation areas leading to exposure in excess of the regulatory limit. Except for rescue of personnel (life-saving only), authorization must be given in advance by the Emergency Coordinator (EC) in consultation with the TSC Health Physics Supervisor (or alternate). If time permits, the EC should obtain concurrence from the Recovery Manager if the EOF is operational. In any case, where regulatory limits have been exceeded the EC shall notify the RM of the event.

For those remote circumstances involving an event in progress and obtaining EC approval will result in leaving the accident scene or decrease the victim(s) chance of survival, lifesaving actions may be performed without obtaining EC approval. The EC shall be notified immediately following the rescue operation.

Re-entry personnel that have been selected/chosen to exceed regulatory exposure limits should be volunteers⁽⁴⁾, broadly familiar with the risks involved (radiosensitivity of fetuses, effects of acute exposures, etc.), whose normal duties have trained them for such missions.

EPA 400 Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, EPA 400-R-92-001 states that "To assure adequate protection of minors and the unborn during emergencies, the performance of emergency services should be limited to non-pregnant adults". FPL endorses this guidance; however, FPL recognizes that it is the right of the worker to make the decision to perform as an on-site emergency worker, understanding the potential risks involved.

Since, by their very nature, emergency exposures requiring immediate action are not planned, they are not controlled as a Planned Special Exposure. Dose received from exposure under emergency conditions will be added to the dose received during the current year, prior to the emergency, to determine compliance with the occupational dose limits in 10 CFR 20.

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ATTACHMENT 11
§1 BASIS FOR EXPOSURE LIMITS FOR
EMERGENCY RESPONSE PERSONNEL
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Doses above regulatory limits will require reporting pursuant to 10 CFR 20.2202 and 20.2203. Any dose in excess of the annual limits specified in Section 20.1201(a) will be accounted for in accordance with 10 CFR 20.1206(e). If an individual exceeds any of these limits, then the individual will not be available for additional dose under 20.1201(a).

- | NOTE |
|---|
| <ol style="list-style-type: none"> 1. Both Total Dose (TEDE) and Thyroid Dose (CDE) should be used for purposes of controlling exposure. 2. 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)

REVISION NO.: 5	PROCEDURE TITLE: DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR	PAGE: 66 of 66
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ATTACHMENT 11

**§₁ BASIS FOR EXPOSURE LIMITS FOR
EMERGENCY RESPONSE PERSONNEL**

(Page 3 of 3)

- (1) Exposure limits to the lens of the eye are 3 times the Total Dose (TEDE) values listed.
- (2) Total Dose (TEDE) is the total whole body exposure from both external and internal (weighted) sources - Total Effective Dose Equivalent.
- (3) 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).
- (4) 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.
- (5) 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 11



ST. LUCIE PLANT HEALTH PHYSICS PROCEDURE

SAFETY RELATED

Procedure No.
HP-202

Current Rev. No.
26

Effective Date:
01/26/00

Title:

ENVIRONMENTAL MONITORING DURING EMERGENCIES

Responsible Department:

HEALTH PHYSICS

Revision Summary

Revision 26 - Changed NCPM to GCPM. (Don Reisinger, 01/13/99)

Revision 25 - Added Red Team survey points. (Don Reisinger, 09/16/99)



Revision	FRG Review Date	Approved By	Approval Date	S__OPS DATE _____ DOCT PROCEDURE _____ DOCN HP-202 _____ SYS _____ COMP COMPLETED _____ ITM 26 _____
0	07/07/81	C. M. Wethy Plant General Manager	07/13/81	
Revision	FRG Review Date	Approved By	Approval Date	
26	01/13/00	R. G. West Plant General Manager	01/13/00	
		N/A Designated Approver		

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 26
ENVIRONMENTAL MONITORING DURING EMERGENCIES

1.0 TITLE:

ENVIRONMENTAL MONITORING DURING EMERGENCIES

2.0 REVIEW AND APPROVAL:

See cover page

3.0 PURPOSE:

To provide a method for the determination of radioiodine concentrations and dose rates in the environment due to releases of radioactive materials from the plant under accident conditions.

3.1 The off-site Field Monitoring Teams monitor releases in the Emergency Planning Zone (EPZ) from the plant out to a distance of approximately 10 miles.

3.2 The on-site Field Monitoring Team monitors releases outside the plant PROTECTED AREA but within the OWNER-CONTROLLED AREA.

4.0 LIMITS AND PRECAUTIONS:

4.1 Off-site monitoring within the Plume Exposure Pathway EPZ shall be performed by St. Lucie Field Monitoring Teams.

4.2 Field Monitoring Teams shall be under the direction of the TSC HP Supervisor (TSCCHPS) in the Technical Support Center (TSC).

4.3 One member of each Field Monitoring Team shall be a qualified Health Physics Technician (HPT).

4.4 All Field Monitoring Team members shall wear personal dosimetry while doing monitoring.

4.5 Field Monitoring Teams should obtain FPL vehicles equipped with a cigarette lighter (power supply for portable radio) to use for transportation. Vehicles should have their engines on (running) and radios on during field activities.

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 26
ENVIRONMENTAL MONITORING DURING EMERGENCIES

4.0 LIMITS AND PRECAUTIONS: (continued)

- 4.6 The Field Monitoring Teams shall drive out of the release plume to count samples.
- 4.7 Respiratory protection equipment is available for each Field Monitoring Team and shall be used when the team is in the release plume.
- 4.8 The FPL Field Monitoring Teams shall communicate sample analysis data only to the plant unless otherwise directed by the TSCHPS.
- 4.9 The responsibility of the on-site Field Monitoring Team is to monitor releases on the FPL owned property. The Site Assembly Station is a principle location to monitor and other locations as directed by the TSCHPS.
- 4.10 The TSCHPS shall deploy the Field Monitoring Teams according to the following emergency classifications:

ALERT	Onsite	1 Team
SITE AREA/ GENERAL EMERGENCY	Onsite Offsite	1 Team (if not previously deployed) 2 Teams

- 4.11 Ensure all personnel using/handling the radios are familiar with the warnings/precautions contained in Appendix A to this procedure.

5.0 RELATED SYSTEMS STATUS:

None

6.0 REFERENCES:

- 6.1 St. Lucie Plant Radiological Emergency Plan (E-Plan)
- 6.2 HP-200, Health Physics Emergency Organization
- 6.3 EPIP-10, Off-site Radiological Monitoring
- 6.4 FP&L Environmental Survey Team Map (10 mile EPZ)

ST. LUCIE PLANT
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ENVIRONMENTAL MONITORING DURING EMERGENCIES

7.0 RECORDS REQUIRED:

7.1 Field Monitoring Team Log Book

7.2 Table 1, Field Monitoring Team Check List

7.3 The following document when completed shall be maintained in the plant files in accordance with QI-17-PSL-1, "Quality Assurance Records."

1. Form HP 202.1, Environmental Airborne Activity Calculation Form

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 26
ENVIRONMENTAL MONITORING DURING EMERGENCIES

8.0 INSTRUCTIONS:

- 8.1 The TSCHPS directs the staffing and deployment of the Field Monitoring Teams. Upon the declaration of an ALERT level emergency the on-site out-of-plant Field Monitoring Team shall be activated and the off-site Field Monitoring Teams may be activated at the discretion of the Emergency Coordinator. If the classification is a SITE AREA or GENERAL EMERGENCY the on-site out-of-plant Field Monitoring Team and the off-site Field Monitoring Teams shall be activated.

NOTE

1. Verify respirator qualification of all field team members - consult the Radiation Exposure Summary Report.
2. Verify vehicle has cigarette lighter.
3. SAS keys are at the North Security Building, if needed.

- 8.2 The HP Supervisor in the Operational Support Center (HPOSC) is responsible for the deployment of the Field Monitoring Teams and ensuring each HPT is:

1. Paired with a driver
2. Provided a vehicle
3. Red Team only
 - Given a hand-held radio
 - Given a pair of boltcutters (from the OSC HP Emergency kit)

NOTE

The first team to complete Table 1, Field Monitoring Team Checklist, becomes the Red Team and is the first dispatched to the field.

- 8.3 Upon arrival at the Site Assembly Station (SAS) the Field Monitoring Teams call the Technical Support Center (TSC). The TSCHPS designates the on-site Field Monitoring Team as the Red Team, the off-site Field Monitoring Team as the Blue Team and the other off-site Field Monitoring Team as the Orange Team.

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 26
ENVIRONMENTAL MONITORING DURING EMERGENCIES

8.0 INSTRUCTIONS: (continued)

- 8.4 Each Field Monitoring Team shall inventory their respective Emergency Kit and complete the Field Monitoring Team Checklist (see Table 1).
- 8.5 Equipment operability shall be verified in accordance with Appendix A, Operability Instructions.

NOTE

Supplemental or replacement equipment and/or instruments are available in the spare Emergency Kit.

- 8.6 Following completion of inventories and equipment checks, the Field Monitoring Teams will be given instructions on required monitoring points. Monitoring points are designated using Emergency Planning Zone (EPZ) map coordinates, highway and road numbers/names, or the points shown in Appendix B, Preselected On-site Monitoring Points and/or Appendix C, Preselected Off-site Monitoring Points under the direction of the TSCHPS.
- 8.7 Field Monitoring Teams will proceed to the designated monitoring points.

NOTE

If a release is in progress, Field Monitoring Teams should monitor dose rates and count rates during transit and report any indications of a plume to the TSC. Ensure count rate meter is operating in cab of truck during transit.

- 8.8 Prior to arriving at the sampling location, place a AgX cartridge and particulate filter in the sample head. Mark the upstream face of both filters.
- 8.9 Upon arrival at the sampling location, the Field Monitoring Team should perform a dose rate survey in following manner. Record the time arrived at location in the blank labeled Time on Form HP 202.1, Environmental Airborne Activity Calculation Form found in this procedure.
1. Holding the survey instrument at head height with the detector upward, and beta window open, obtain a radiation reading of the overhead plume. The beta window should be open to assist in detecting low levels in the plume. If a positive indication is observed, close the beta window and observe the gamma dose rate. Enter the dose rates on worksheet HP 202.1, line 3.

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 26
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8.0 INSTRUCTIONS: (continued)

8.9 (continued)

2. Report the dose rates to the plant.
3. With the vehicle engine running, connect the air sampler power leads to the vehicle's battery, taking care to connect the positive and negative cables to the positive and negative battery terminals, respectively.
4. Start the stop watch and note the air flow rate. Run the air samples long enough to collect a 6 cubic foot sample, unless otherwise instructed.
5. During air sampling, the Field Monitoring Teams should observe the dose rate instrument for significant changes in dose rates. Report significant changes to the plant.
6. The Field Monitoring Team shall drive out of the release plume and count the samples.
7. Remove the AgX cartridge and particulate filter from the sampler head and place in separate labeled bags. Analyze the AgX cartridge per Appendix A, Step 5, save both samples as further inhouse analysis may be desired.

8.10 Air samples should be bagged, labeled and a log entry made of the following information:

1. Date and start time of sample
2. Duration of sample
3. Average flow rate of air sampler
4. Location of sample (map coordinates, landmarks, etc.)
5. Field Monitoring Team name
6. Air sampler number
7. Ludlum 2218 Analyzer Serial Number

ST. LUCIE PLANT
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ENVIRONMENTAL MONITORING DURING EMERGENCIES

8.0 INSTRUCTIONS: (continued)

- 8.11 Communicate the data as indicated on the worksheet (HP 202.1), enter similar information in the bound logbook and standby for further instructions.
- 8.12 The TSCHPS may direct that a longer sampling period be used if very low release concentrations are suspected to be occurring.

**ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 26
ENVIRONMENTAL MONITORING DURING EMERGENCIES**

**TABLE 1
FIELD MONITORING TEAM CHECKLIST**

1.0 Emergency Kit (Footlocker) Inventory - verify necessary items.

NOTE	
1.	Magnetic-mount antenna is on top of kit.
2.	If kit seal is unbroken, Then go to step 2.

- 1.1 TLD (2) _____
- 1.2 EPD (2) _____
- 1.3 DRD, 0 - 5 R (2) _____
- 1.4 Dosimeter Charger (1) _____
- 1.5 Full Face Respirator (2) (can be functionally checked on the spot) _____
- 1.6 Charcoal Canister (2) _____
- 1.7 AgX Cartridge (6) _____
- 1.8 Particulate Filter (6) _____
- 1.9 Stopwatch (1) _____
- 1.10 Air Sample Bag (6) _____
- 1.11 Surgical Gloves (6) _____
- 1.12 Tweezers (1) _____
- 1.13 Flashlight (1) _____
- 1.14 Calculator (1) _____
- 1.15 Portable Radio _____
- 1.16 Power Cord with Cigarette-lighter Plug _____
- 1.17 Microphone with Cable _____
- 1.18 DC Power Receptacle with Battery Chips _____
- 1.19 Logbook (1) _____
- 1.20 List of TSC Phone Numbers (1) _____
- 1.21 Procedure, HP-202 (1) _____
- 1.22 HP 202.1 Forms (6) _____
- 1.23 Set of Site and Local Maps (1) _____

2.0 Verify Operability of Equipment (All tests in accordance with Appendix A, Operability Instructions)

- 2.1 High Volume Air Sampler with battery cables _____
 - 1. Perform operability check IAW Appendix A.
- 2.2 Portable Dose Rate Instrument _____
 - 1. Perform operability check IAW Appendix A.
- 2.3 Portable Count Rate Instrument _____
 - 1. Perform operability check IAW Appendix A.
- 2.4 Ludlum 2218 Analyzer _____
 - 1. Perform operability check IAW Appendix A.
- 2.5 Field Team Radio _____
 - 1. Review Operating Instructions.
 - 2. Attach magnetic-mount antenna to radio and vehicle.
 - 3. Plug radio power cord into vehicle cigarette lighter.
 - 4. Test radio.

3.0 Prior to departing the Site Assembly Station verify the following:

- 3.1 Radio check completed with the Plant _____
- 3.2 Dose Rate and Count Rate Instruments in cab and on lowest scale _____
- 3.3 Portable Count Rate Instrument in Emergency Kit (Footlocker) _____
- 3.4 Respirators in the cab _____
- 3.5 Field Team Members equipped with dosimetry _____
- 3.6 Maps in vehicle cab _____
- 3.7 Bolt cutters available (Red Team only) _____

Team Name _____

Inventory by _____ Date ____/____/____

Operability Checks by _____ Date ____/____/____

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1. Connect Hi Vol Air Sampler to truck battery (observe polarity) with engine running, turn air sampler on, confirm that flow is > 1.0 cfm, with collection filters and holder in place.
2. Portable Dose Rate Instrument - Check calibration sticker, battery test and response to supplied check source.
3. Portable Count Rate Instrument - Check calibration sticker, battery test (unplug line cord) and response to supplied check source.
4. Battery and Operational Checks of the Ludlum Model 2218:

NOTE

Should it be necessary to use Channel 2, items contained within parentheses are settings to be used for Channel 2, see Figure 1.

Verify that the RECYCLE knob is OFF. The knob is labeled and located on the rear panel of the instrument.

- 4.1 Check the battery as follows:

NOTE

If an instrument fails the battery check, it can be used only if it is connected to AC power and successfully passes the operational check.

- A. Turn the POWER knob to BAT.
- B. Unplug the AC line cord.
- C. Depress the BAT testbutton.
- D. Observe the condition below the RATE SCALE.

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4. (continued)

4.1 (continued)

E. If battery condition is not within the acceptable BAT TEST range, plug in the AC line cord and turn the POWER knob to CHARGE. Attach a label to the instrument stating Instrument is charging, started charge at _____ AM/PM on _____, 19_____.

F. If the battery condition is acceptable, then continue with the steps below.

4.2 Set the STABILIZER toggle switch to OFF.

4.3 Ch1 (Ch2), set the ADD-OFF-SUBTRACT knob to ADD.

4.4 Ch2 (Ch1), set the ADD-OFF-SUBTRACT knob to OFF.

4.5 Ch1 and Ch2, set the ON-BYPASS toggle switch to BYPASS.

4.6 Ch1 (Ch2), set the WINDOW and the THRESHOLD dials (in accordance with) settings on the side of the 2218 cabinet.

4.7 Set the unused Channel's WINDOW and THRESHOLD dials to 10.0.

4.8 Ch1 (Ch2), set the IN-OUT toggle switch to IN.

4.9 Ch2 (Ch1), set the IN-OUT toggle switch to OUT.

4.10 Set the MINUTES knob to X1.

4.11 Set the LIVE-CLOCK toggle switch to LIVE.

4.12 Set the F-S (Fast-Slow) toggle switch to S.

4.13 Set the CH1-CH2-SCALER knob to SCALER.

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4. (continued)

4.14 Set the MINUTES thumbwheel to 01.

4.15 Perform a source check as follows:

- A. Place the Ba-133 check source in the shield under the detector.
- B. Depress the COUNT-RESET button to start counting.
- C. When counting stops, compare the displayed counts with the acceptance range that is located on the side of the instrument.
- D. If the displayed counts are within the acceptance range, then go to Step 4.17. If the displayed counts are not within the acceptance range, then go to Step 4.16.

4.16 High Voltage (HV) adjustments are performed as follows:

- A. Set the MINUTES knob to EXT.
- B. Place the Ba-133 check source in the shield under the detector.
- C. Depress the COUNT-RESET button to start counting.
- D. Observe the COUNTS/MINUTE (Count Rate Meter) scale while making small adjustments in voltage to obtain the **maximum** count rate achievable.
- E. Increase or decrease the voltage with the HV (High Voltage) dial.
- F. Set the MINUTES knob to X1.
- G. Depress the COUNT-RESET button to start counting.
- H. When counting stops, compare the displayed counts with the acceptance range that is located on the side of the instrument.

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4. (continued)

4.16 (continued)

- I. If the displayed counts are within the acceptance range, then go to Step 4.17. If the displayed counts are not within the acceptance range, then do not use the instrument.
- J. Tag the instrument OUT-OF-SERVICE, give the reason.
- K. Obtain another 2218 and perform the operability check.

4.17 Set the MINUTES thumbwheel to 05.

4.18 The battery and operational response checks have been successfully completed and the instrument has been set to count samples.

5. Operation of the Ludlum Model 2218:

5.1 Obtain Form HP 202.1, Environmental Airborne Activity Calculation Form.

5.2 Verify that the MINUTES thumbwheel is set to 05, adjust as necessary.

5.3 Perform a Background Count by depressing the COUNT-RESET button.

5.4 If the Background Counts are greater than 10,000 counts, then move to an area of presumed lower background. Repeat step 5.3. If the Background Counts are less than 10,000 counts, then go to the next step. If the background counts are still greater than 10,000 counts, continue and try to locate a lower background area.

5.5 Enter the number of counts in the blank labeled Background Counts on Form HP 202.1 and 5 in the blank labeled Count Time.

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5. (continued)

5.6 Calculate the Background Counts Per Minute (BCPM) by dividing the Background Counts by the Minutes.

5.7 Calculate the MINIMUM DETECTABLE COUNT (MDCR) using the following formula:

$$MDCR = BKG (CPM) + 4.66 \sqrt{\frac{BKG (CPM)}{BKG COUNT TIME (MIN)}}$$

5.8 Place the air sample cartridge in the shield under the detector so that the inlet side of the cartridge is facing the detector.

5.9 Count the sample by depressing the COUNT-RESET button.

5.10 If the Gross Counts are greater than 750,000 counts, then reduce the counting time to 1 minute by setting the MINUTES thumbwheel to 01. Repeat step 5.8. If the Gross Counts are less than 750,000 counts, then go to the next step.

5.11 Enter the number of counts in the blank labeled Gross Counts on Form HP 202.1 and 5 or 1 (as appropriate) in the blank labeled Count Time.

5.12 Calculate the Gross Counts Per Minute (GCPM) by dividing the Gross Counts by the Minutes.

5.13 Compare sample GROSS COUNT PER MINUTE (GCPM) to the calculated MDCR.

1. If GCPM is less than MDCR ($GCPM < MDCR$), Then report I^{131} activity as less than minimum detectable activity (<MDA).
2. If GCPM is equal to or greater than MDCR ($GCPM \geq MDCR$) GO TO step 5.14.

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APPENDIX A
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5. (continued)

5.14 Calculate the Net Counts Per Minute (NCPM) by subtracting the BCPM from the GCPM and enter in the blank labeled NCPM on Form HP 202.1.

5.15 Calculate the I-131 concentration ($\mu\text{Ci/ml}$) by entering the requested values in the following formula.

$$I-131 \mu\text{Ci/ml} = \frac{NCPM}{(2.63 \text{ E}+09) (\text{_____ Ft}^3 \text{ volume})}$$

Background Counts per Minute= _____ (5.6)

Gross Counts per Minute = _____ (5.12)

Net Counts per Minute = _____ (5.14)

APPENDIX A
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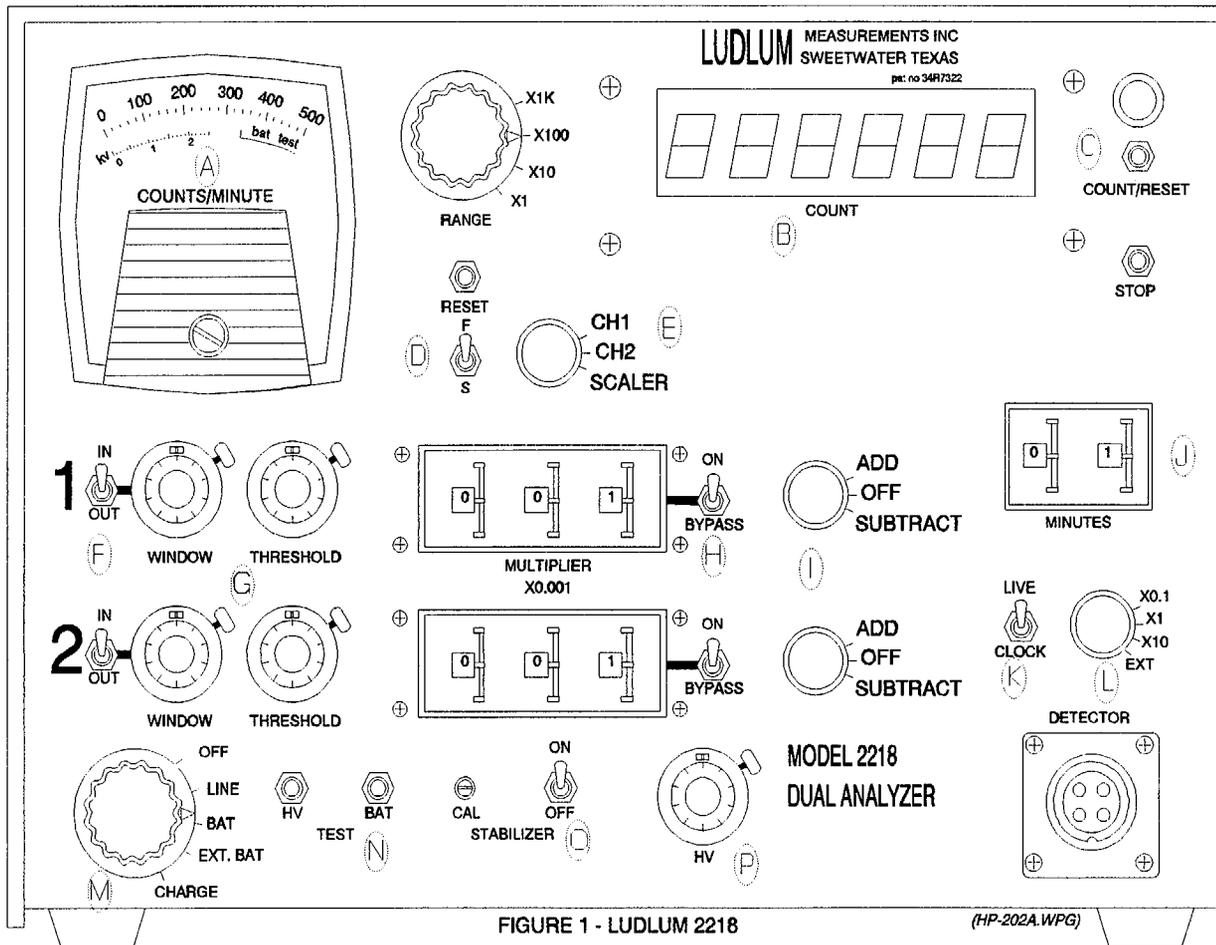


FIGURE 1 - LUDLUM 2218

(HP-202A.WPG)

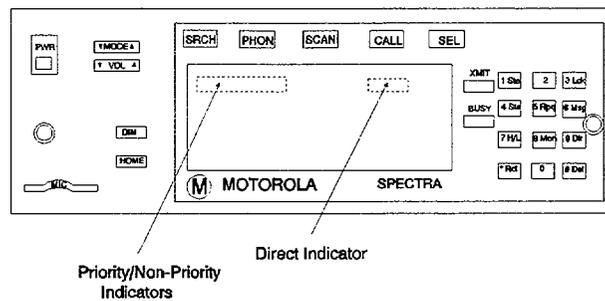
Battery Check	HV Adjustment	Count Verification	Operational Check (Ch1)/Operation
M - set to "BAT"	L - set to "EXT"	L - set to "X1"	O - toggle to "OFF"
N - depress test button to check battery condition	C - depress button to start count	C - depress button to start count	I - Ch1 to "ADD;" Ch2 to "OFF"
A - Indicates battery condition on "BAT TEST" scale	P - adjust voltage	B - compare counts with acceptance range for the instrument	H - toggle to "BYPASS" for Ch1 and Ch2
	A - observe maximum count rate		G - Ch1 set WINDOW and THRESHOLD in accordance with settings on side of instrument; Ch2 set WINDOW and THRESHOLD to "10.0"
			F - toggle to "IN" for Ch1 and "OUT" for Ch2
			L - set to "X1"
			K - toggle to "LIVE"
			D - toggle to "S"
			E - set to "SCALER"
			J - set to "01" for check set to "05" for sample count
			C - depress button to start count

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Operating Instructions for the Motorola Spectra Radio



(HP-202B.WPG)

To Turn On The Radio: Press the power switch once.

To Set Volume and Squelch: Hold [Vol] rocker down to increase or decrease volume as desired; then release. The display shows volume levels from 0 to 15. The radio is ready to receive calls. On conventional modes with *Private Line* or *Digital Private Line*, press [Mon] or remove the microphone from the hang-up clip to defeat the coded squelch. Press again to return to coded-squelch operation. To adjust squelch level, hold [Mon] until a beep sounds; use [Mode] to select squelch level. Press [Home].

To Change Modes: Press [Mode] to select desired mode, or press [Home] to access the preprogrammed home mode.

To Transmit: Press and hold the microphone PTT; when the transmit light comes on solid and no alert tones sound (or a talk-permit tone or ID sidetone sounds), speak into the microphone in a normal voice. State your FCC call sign at the beginning of each transmission.

To Talk Mobile-to-mobile (Conventional Modes): Press [Dir]; the DIR indicator lights to indicate direct (mobile-to-mobile) operation. Press [Dir] again to return to repeater operation.

To Activate operator Selected Coded Squelch (Conventional Modes): Press [MPL]; the MPL indicator lights to indicate the operator selected value is now active. Press [MPL] again to return to the mode strapped value.

To Activate Scan: Press [Scan] to start the scanning operation. The radio scans a preselected list of modes for activity. If no activity exists, the display shows your selected mode. When a scanned channel or talkgroup becomes active, the display shows the active mode name. The PRI and NPRI indicators show priority. Press [Scan] again to stop scanning.

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APPENDIX A
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Operating Instructions for the Motorola Spectra Radio
(continued)

To Edit a Scan List: Hold [**Scan**] until a beep sounds and the scan indicator blinks. Then,

- (1) Use [**Mode**] to select the mode you want to program.
- (2) Press [**Sel**] to add or to remove the displayed mode to the scan list. Repeat these steps to add to or change the list as desired. Then press [**Home**].

To Select Scan Mode Priority: When editing a Priority Scan list, you may designate two of the modes as priorities by pressing the [**Sel**] button as indicated below. When priorities are set, press [**Home**] to end scan list selection.

Press [Sel]	Assigns Mode to	Indicator
1 Time	Non-Priority	NPRI Lights
2 Times	Second Priority	PRI Lights
3 Times	First Priority	PRI Blinks

NOTE

The radio should be turned off whenever the engine is off to avoid draining the vehicle battery.

GENERAL SAFETY INFORMATION

The United States Department of Labor, through the provisions of the Occupational Safety and Health Act of 1970 (OSHA) has established an electromagnetic energy safety standard that applies to the use of this equipment. Proper use of this radio will result in exposure below the OSHA limit. The following precautions are recommended:

- DO NOT operate the transmitter of a mobile radio when someone outside the vehicle is within two feet (0.6 meter) of the antenna.
- DO NOT operate the transmitter of a fixed radio (base station, microwave, the rural telephone RF equipment) or marine radio when someone is within two feet (0.6 meter) of the antenna.

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HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 26
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APPENDIX A
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Operating Instructions for the Motorola Spectra Radio
(continued)

GENERAL SAFETY INFORMATION

(continued)

- DO NOT operate the transmitter of any radio unless all RF connectors are secure and any open connectors are properly terminated.
- DO NOT operate this equipment near electrical blasting caps or in an explosive atmosphere.
- All equipment must be properly grounded according to Motorola installation instructions for safe operation.
- All equipment should be serviced only by a qualified technician.

Refer to the appropriate section of the product service manual for additional pertinent safety information.

INSTALLATION SAFETY WARNING

Consider the occupants' safety when you choose a location for the radio. Do not mount the radio overhead or on a sidewall unless you take special precautions.

If someone were to remove the radio and fail to replace it properly, road shock could bump the radio loose and the falling radio could, in some circumstances, cause serious injury to the driver or a passenger. In a crash, even when properly installed, the radio could break loose and become a dangerous missile.

If you must mount the radio overhead or on a sidewall, give it the added protection of a retaining strap.

OPERATIONAL SAFETY WARNINGS

WARNING

For vehicles equipped with electronic anti-skid systems, see ANTI-SKID BRAKING PRECAUTIONS Publication, Motorola Number 68P81109E34.

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APPENDIX A
OPERABILITY INSTRUCTIONS

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Operating Instructions for the Motorola Spectra Radio
(continued)

OPERATIONAL SAFETY WARNINGS
(continued)

WARNING

For vehicles equipped with electronic ignition systems, check the service manual for warnings about the use of two-way radio equipment in the vehicle.

WARNING

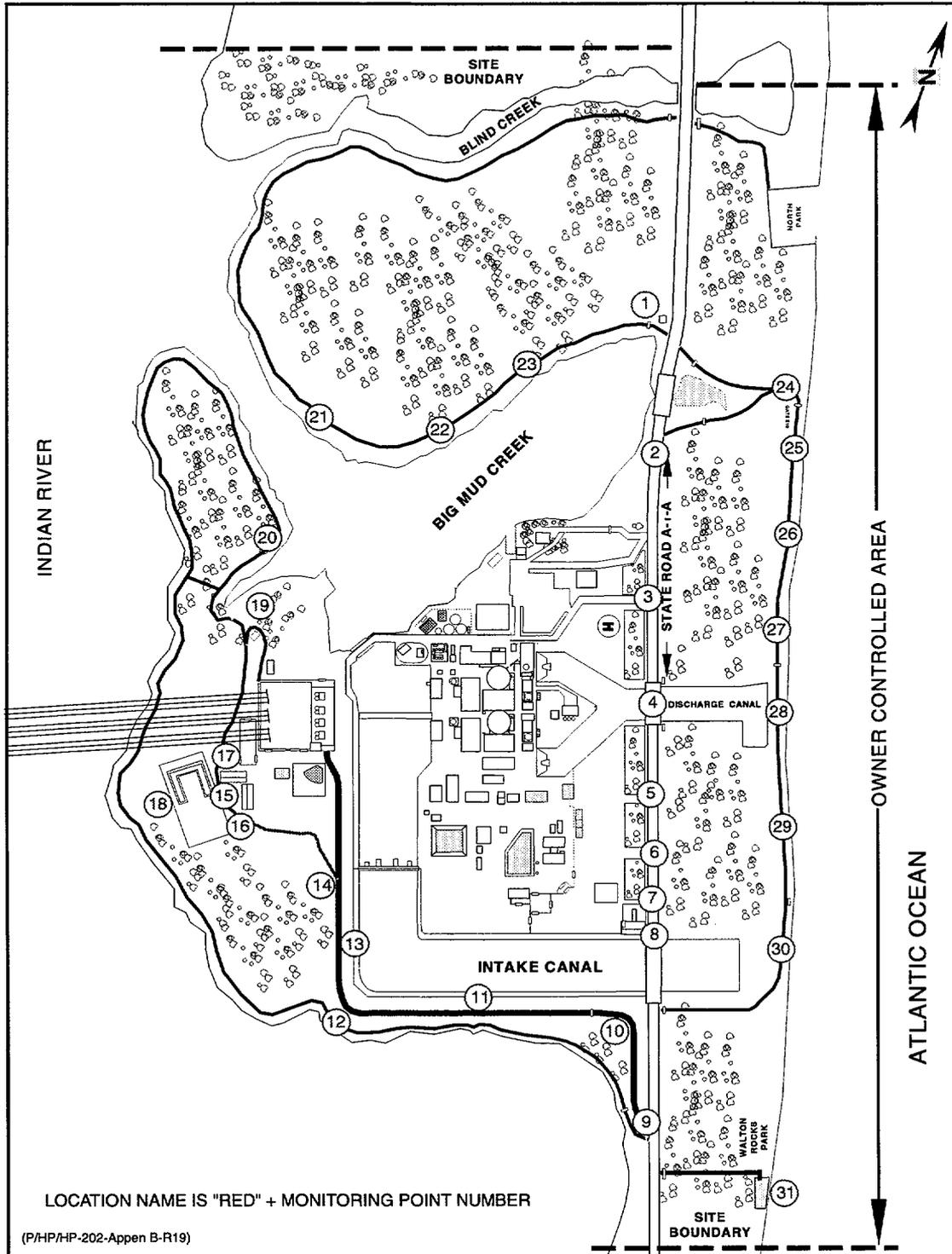
It is mandatory that radio installation in vehicles fueled by liquefied petroleum gas conform to the following standard:

National Fire Protection Association standard NFPA 58 applies to radio installation in vehicles fueled by liquefied petroleum (LP) gas with LP gas container in the trunk or other sealed-off space within the interior of the vehicles. This standard requires that:

1. Any space containing radio equipment shall be isolated by a seal from the space in which the LP gas container and its fittings are located.
2. Remote (outside) filling connections shall be used.
3. The container space shall be vented to the outside.

ST. LUCIE PLANT
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ENVIRONMENTAL MONITORING DURING EMERGENCIES

APPENDIX B
PRESELECTED ON-SITE MONITORING POINTS
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<u>MONITORING POINT</u>	<u>LOCATION</u>	<u>DISTANCE FROM PLANT (MILES)</u>	<u>EPZ SECTOR</u>
Red-1	Met Tower, Site Assembly Sta.	0.5	A
Red-2	Gate A & Rte A1A	0.3	B
Red-3	Gate B & Rte A1A	0.25	B
Red-4	Discharge Canal Bridge @ Rte A1A	0.2	D
Red-5	Gate C & Rte A1A	0.25	E
Red-6	Gate D & Rte A1A	0.3	F
Red-7	Gate E & Rte A1A	0.33	F
Red-8	Gate F & Rte A1A (north side of intake canal)	0.45	G
Red-9	Gate G & Rte A1A	0.6	G
Red-10	Ball Park Road (first north to westbound corner)	0.5	G
Red-11	Ball Park Road (@ mile marker on berm)	0.46	G, H
Red-12	Ball Park Road (@ corner turning north)	0.5	H, J
Red-13	Ball Park Road (post in berm, midway between monitoring points Red 12 & 14)	0.38	J
Red-14	Ball Park Road (@ left turn towards Gun Range/ Picnic Pavilion)	0.3	K

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<u>MONITORING POINT</u>	<u>LOCATION</u>	<u>DISTANCE FROM PLANT (MILES)</u>	<u>EPZ SECTOR</u>
Red-15	Gate W-25 (east side of Gun Range)	0.4	L
Red-16	Picnic Pavilion	0.33	L
Red-17	Intersection of Boat Ramp turnoff & road to Fire Training Area	0.32	L
Red-18	Gate W-26 (west side of Gun Range)	0.5	L
Red-19	Boat Ramp	0.36	M, N
Red-20	Fitness Trail (@ .5 mi. sign)	0.5	N
Red-21	Road, north side of Big Mud Creek (opposite Boat Ramp)	0.35	P
Red-22	Road, north side of Big Mud Creek (opposite City Water Storage Tanks)	0.30	Q
Red-23	Road, north side of Big Mud Creek (opposite Barge Slip)	0.4	R
Red-24	Turtle Beach Parking Lot	0.62	B
Red-25	Large foot bridge	0.54	B, C
Red-26	Small foot bridge	0.51	C
Red-27	Concrete power pad	0.5	C
Red-28	Discharge Canal Header	0.5	D

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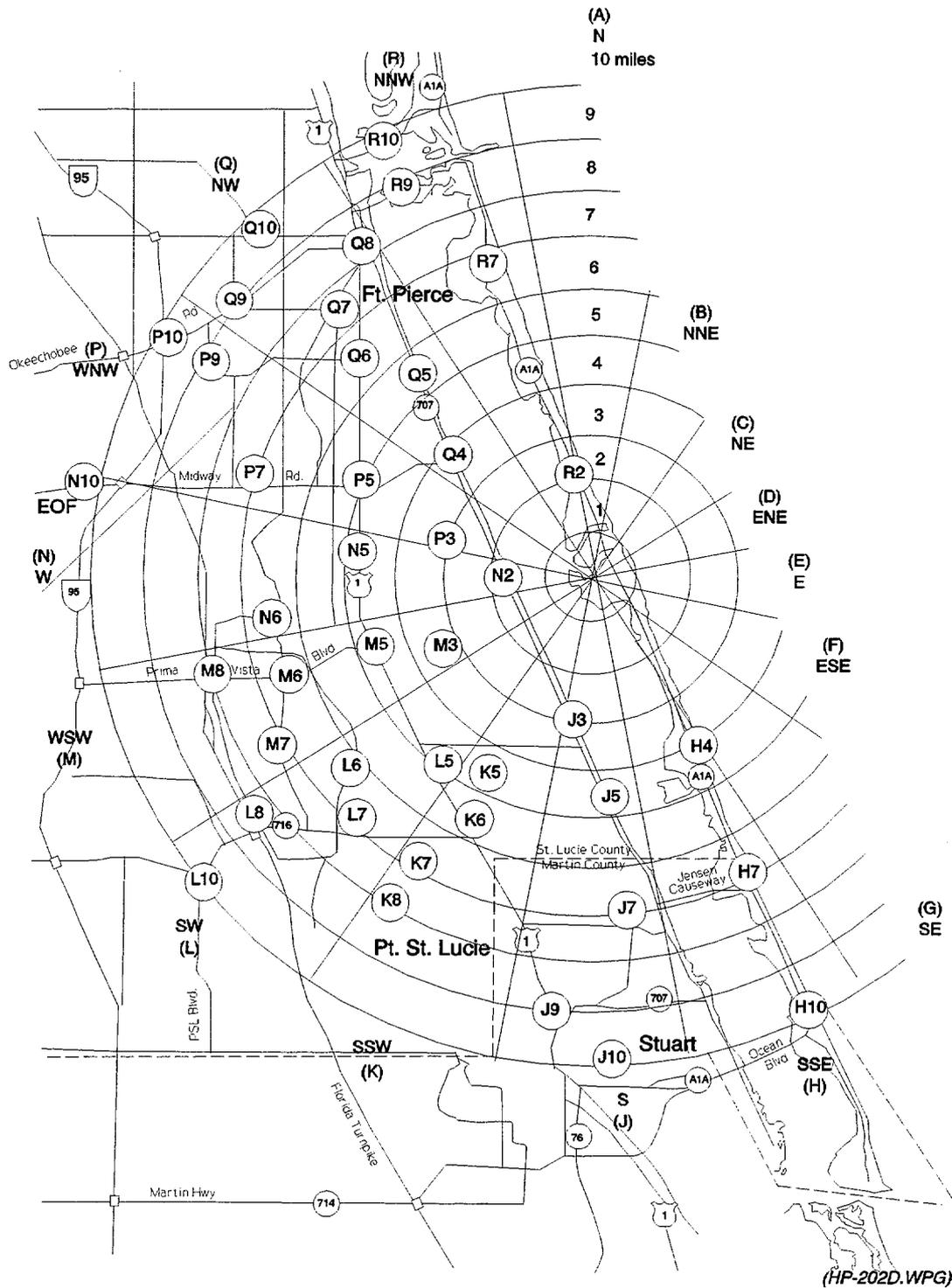
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<u>MONITORING POINT</u>	<u>LOCATION</u>	<u>DISTANCE FROM PLANT (MILES)</u>	<u>EPZ SECTOR</u>
Red-29	Halfway between Discharge & Intake Canal Headers	0.52	E
Red-30	Intake Canal Header	0.6	F
Red-31	Walton Beach entrance road (@ fork in the road)	0.8	G

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**APPENDIX C
PRESELECTED OFF-SITE MONITORING POINTS
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Monitoring Point	Location	Distance From Plant	EPZ Sector
R2	S.R. A1A, NNW of plant site (Little Mud Creek Bridge)	2.3	R
R7	Intersection S.R. A1A and Clipper Blvd. (Entrance to Ocean Village)	6.7	R
R9	S.R. A1A, NNW of plant site (West of Fire Dept. at Siren)	8.6	R
R10	East side of North Bridge (S.R. A1A)	9.6	R
Q4	Intersection of Indian River Dr. (S.R. 707) and White Rd., East of White City and South of Fort Pierce	3.7	Q
Q5	Intersection of Indian River Dr. (S.R. 707) and Rio Vista Dr.	5.4	Q
Q6	Intersection of U.S. 1 and Edwards Rd. (S.R. 611.B), South side of Ft. Pierce near railroad crossing	6.4	Q
Q7	Intersection of Oleander Blvd. (S.R. 605) and Virginia Ave.	7.4	Q
Q8	Intersection U.S. 1 and Delaware Ave.	8.1	Q
Q9	Intersection of Okeechobee Rd. (S.R. 70) and Hartman Rd. (S. 41st St.) (near siren)	9.1	Q
Q10	Intersection of Orange Ave. (S.R. 68) and Angle Rd.	9.6	Q
P3	Intersection of Bartow St. and Yucca Dr.	3.2	P
P5	Intersection of U.S. 1 and Midway Rd. (S.R. 712), White City	5.2	P
P7	Intersection of Midway Rd. (S.R. 712) and Christianson Rd. (at siren)	7.1	P

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Monitoring Point	Location	Distance From Plant	EPZ Sector
P9	Intersection of McNeil Rd. and Edwards Rd. (611B)	8.7	P
P10	Intersection of Okeechobee Rd. (S.R. 70) and I-95	9.7	P
N2	S.R. 707 West of plant site (at siren)	2.0	N
N5	Intersection of U.S. 1 and Saeger Rd. (south of White City)	4.8	N
N6	Intersection of St. James Dr. and Airoso Blvd.	6.4	N
N10	St. Lucie's EOF, Intersection of S.R. 712 and I-95	10.2	N
M3	East end of N. Mediterranean Blvd.	3.4	M
M5	Intersection of U.S. 1 and Prima Vista Blvd., Port St. Lucie	4.8	M
M6	Intersection of Prima Vista Blvd. and Airoso Blvd.	6.5	M
M7	Intersection of Airoso Blvd. and Whitmore Dr.	7.3	M
M8	Intersection of Prima Vista Blvd. and Bayshore Blvd.	7.8	M
L5	Intersection of U.S. 1 and Walton Rd., Port St. Lucie	4.8	L
L6	Intersection of Floresta Dr. and Thornhill Dr.	6.4	L
L7	Intersection of Whitmore Drive and Port St. Lucie Blvd.	7.2	L
L8	Intersection of Port St. Lucie Blvd. and Fla. Turnpike	8.4	L
L10	Intersection of Port St. Lucie Blvd. and Cairo Ave.	10	L

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Monitoring Point	Location	Distance From Plant	EPZ Sector
K5	Intersection of Lennard Rd. and Blossom Rd.	4.7	K
K6	Intersection of U.S. 1 and Port St. Lucie Blvd., Port St. Lucie	5.7	K
K7	Intersection of Morningside Blvd. and Westmoreland Blvd.	7.1	K
K8	Intersection of Morningside Blvd. and River Vista Dr.	8.0	K
J3	Intersection of Walton Rd. and Indian River Dr. (S.R. 707)	3.4	J
J5	Intersection of Indian River Dr. (S.R. 707) and Mockingbird Hill Rd. (near siren)	4.7	J
J7	Intersection of Jensen Beach Blvd. (S.R. 707A) and Savannah Rd. (S.R. 723)	7.0	J
J9	Intersection of Wright Blvd. and U.S. 1	9.2	J
J10	Martin Memorial Hospital	10.0	J
H4	S.R. A1A, south of plant (at siren) North to entrance to Nettle's Island	4.0	H
H7	Intersection of S.R. A1A and the Jensen Beach turnoff (A1A Alt.) (at siren)	6.9	H
H10	Intersection of S.R. A1A and Ocean Blvd. (Elliot Museum)	9.8	H

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HP 202.1
ENVIRONMENTAL AIRBORNE ACTIVITY CALCULATION FORM

- * 1. Team _____ Date ____/____/____ Time _____
- * 2. Location _____
- * 3. Radiation Survey: Window Open _____ mrem/hr
 Window Closed _____ mrem/hr

4. Air Sample Volume:

Sample Start Time _____ Sample Stop Time _____
 Starting Flow Rate _____ CFM Ending Flow Rate _____ CFM
 Average Flow Rate _____ CFM Sample Time _____ Min
 Sample Volume = Average Flow Rate (CFM) X Sample Time (Min)
 = _____ CFM X _____ Min = _____ Cubic Feet

NOTE

In the event radioiodine (I-131) analysis cannot be done in the field, the TSC HP Supervisor will provide for the transport of air samples to the plant site for analysis.

5. Background Count Rate = Background Counts / Count Time
 = _____ counts / _____ Min = _____ BKG cpm

6. $MDCR = BKG \text{ cpm} + 4.66 \sqrt{\frac{BKG \text{ cpm}}{BKG \text{ Count Time}}} = \text{_____ } MDCR \text{ (cpm)}$

7. Gross sample count rate (GCPM) = Gross counts / Count Time
 = _____ counts / _____ min
 = _____ GCPM

8. If "GCPM" is less than "MDCR", Then ^{131}I activity is "<MDA" (less than detectable).

/R26

9. Net Count Rate (NCPM) = GCPM - Bkg cpm
 NCPM = _____ GCPM - _____ BKG cpm
 NCPM = _____

10. ^{131}I activity ($\mu\text{Ci/ml}$) = $\frac{\text{_____ } NCPM}{(2.63 \text{ E} + 09) (\text{_____ } \text{sample volume, Ft}^3)}$

* 11. ^{131}I activity = _____ $\mu\text{Ci/ml}$

* 12. Plume Departure Time _____

* 13. Plume Stay Time: _____ minutes

Survey performed by _____

NOTIFY TSC OF ALL * ITEMS