



November 29, 2001

L-2001-265  
10 CFR 50 Appendix E

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

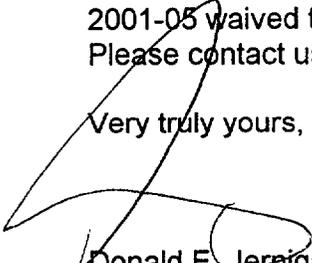
Re: St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
Emergency Plan Implementing Procedures

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>
EPIP-10	Off-Site Radiological Monitoring	5	November 19, 2001
HP-90	Emergency Equipment	38	November 19, 2001
HP-200	Health Physics Emergency Organization	17	November 19, 2001
HP-202	Environmental Monitoring During Emergencies	28	November 19, 2001

A revision summary for the listed procedures is on page 2. NRC Regulatory Issue Summary 2001-05 waived the requirements that multiple copies of documents be submitted to the NRC. Please contact us if there are any questions regarding these procedures.

Very truly yours,

  
Donald E. Jernigan  
Vice President  
St. Lucie Plant

DEJ/spt

Enclosures

A045

### **Revision Summary**

#### **EPIP-10**

- revised the location of field monitoring equipment
- made editorial/administrative changes

#### **HP-90**

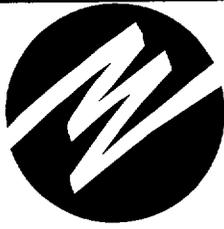
- relocated the emergency kits from the site assembly station (SAS) to the operational support center (OSC) area in the south service building (SSB)

#### **HP-200**

- relocated the kits from the SAS to the SSB at the OSC area

#### **HP-202**

- relocated the kits from the SAS to the OSC area in the SSB



**FPL**

# ST. LUCIE PLANT

## EMERGENCY PLAN IMPLEMENTING PROCEDURE

SAFETY RELATED

Procedure No.

**EPIP-10**

Current Revision No.

**5**

Effective Date

**11/19/01**

Title:

# OFF-SITE RADIOLOGICAL MONITORING

Responsible Department: **EMERGENCY PREPAREDNESS**

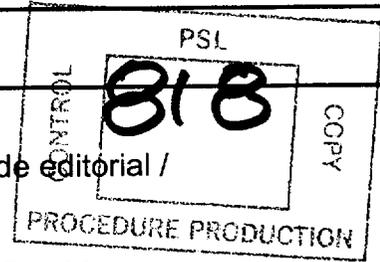
### REVISION SUMMARY:

**Revision 5** - Revised location of field monitoring equipment and made editorial / administrative changes. (J. R. Walker, 11/12/01)

**Revision 4** - Corrected sample location designation on Attachment 5, added dose rate or concentration estimating capability, made administrative and editorial changes, and revised the dose and survey data worksheet. (J. R. Walker, 09/21/00)

**Revision 3** - Added on-site monitoring points, made administrative changes, and incorporated new attachment. (J.R. Walker, 09/21/99)

**Revision 2** - Improved status board update instructions, corrected procedure number to address QA comment from periodic review (Appendix J), and added editorial changes. (J. R. Walker, 03/18/99)



Revision	FRG Review Date	Approved By	Approval Date	S__OPS
0	12/15/97	J. Scarola Plant General Manager	12/15/97	DATE DOCT PROCEDURE DOCN EPIP-10 SYS COM COMPLETED ITM 5
5	11/12/01	R. G. West Plant General Manager N/A Designated Approver N/A Designated Approver (Minor Correction)	11/12/01	

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 2 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 PURPOSE.....	3
2.0 REFERENCES / RECORDS REQUIRED / COMMITMENT DOCUMENTS .....	3
3.0 RESPONSIBILITIES.....	5
4.0 DEFINITIONS.....	6
5.0 INSTRUCTIONS .....	7
<u>ATTACHMENTS</u>	
ATTACHMENT 1 (TSC) FMT COORD/COOM CHECKLIST.....	9
ATTACHMENT 2 (EOF) FMT COORD CHECKLIST .....	13
ATTACHMENT 3 COMMUNICATIONS GUIDELINES .....	15
ATTACHMENT 4 FIELD MONITORING GUIDELINES.....	18
ATTACHMENT 5 PRESELECTED ON-SITE MONITORING POINTS.....	19
ATTACHMENT 6 PRESELECTED OFF-SITE MONITORING POINTS.....	23
ATTACHMENT 7 FIELD MONITORING TEAMS SURVEY RESULTS .....	28
ATTACHMENT 7A FIELD MONITORING TEAMS SURVEY RESULTS - INSTRUCTIONS .....	29
ATTACHMENT 7B ESTIMATE OF THYROID DOSE RATE .....	31
ATTACHMENT 8 DOSE AND SURVEY DATA WORKSHEET .....	32
ATTACHMENT 8A DOSE AND SURVEY DATA WORKSHEET - INSTRUCTIONS .....	33
ATTACHMENT 9 ESTIMATING DOSE, DOSE RATE OR CONCENTRATION AT OTHER DISTANCES .....	35

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 3 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

## 1.0 PURPOSE

### 1.1 Discussion

1. This procedure provides instructions for tabulating off-site monitoring data and calculating doses of the Field Monitoring Team (FMT) personnel based on data resulting from off-site radiological monitoring.
2. Field monitoring activities are directed by the Technical Support Center (TSC) initially and later by the Emergency Operations Facility (EOF), once it goes operational.
3. This procedure is to be used by the FMT Comm/Coord in the TSC and the FMT Coord in the EOF.
4. Field monitoring activities are governed by two procedures:
  - A. This procedure provides instructions for direction and control of the FMTs, and
  - B. HP-202, Environmental Monitoring During Emergencies, provides instructions for personnel on FMTs.

## 2.0 REFERENCES / RECORDS REQUIRED / COMMITMENT DOCUMENTS

### NOTE

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

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

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

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

### 2.1 References

1. §<sub>1</sub> St. Lucie Plant Technical Specifications Unit 1 and Unit 2 (Section 6.10.1)
2. St. Lucie Plant Radiological Emergency Plan (E-Plan)

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 4 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

## 2.1 References (continued)

3. §<sub>2</sub> Florida Power and Light Topical Quality Assurance Report (TQAR)
4. Florida Radiological Emergency Management Plan for Nuclear Power Plants
5. E-Plan Implementing Procedures (EPIP-00-13)
6. HP - 200 Series Procedures
7. St. Lucie Plant Emergency Response Directory (ERD)
8. QI-17-PSL-1, Quality Assurance Records
9. EPA-400-R-92-001, EPA Manual of Protection Action Guides and Protective Actions for Nuclear Incidents, October, 1991.
10. FPL Environmental Survey Team Map (10 mile EPZ)
11. ¶<sub>1</sub> HP Form 100, Emergency Response Personnel Dose Monitoring

## 2.2 Records Required

1. Data collected and generated by this procedure should be recorded.
2. §<sub>1</sub> Recorded information shall be forwarded to the Emergency Preparedness Supervisor following the event, for review and archival in accordance with Technical Specification 6.10.1 and QI-17-PSL-1.

## 2.3 Commitment Documents

1. ¶<sub>2</sub> Nuclear Energy Policy on Exposure Limits for Emergency Response Personnel, Revision to Policy Statement, Ltr. No. JNO-HP-94-056, 26 October, 1994.

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 5 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

### 3.0 RESPONSIBILITIES

#### 3.1 Technical Support Center Health Physics Supervisor (TSCHPS)

1. The TSCHPS or his designee is responsible for the activation, staffing, and direction of the Field Monitoring Team(s).
2. Directions for the TSCHPS are found in the HP-200 Series procedures.

#### 3.2 EOF Health Physics Manager

1. The EOF HP Manager is responsible for field monitoring activities when the EOF is operational and a turnover has occurred with the TSCHPS.
2. Directions for the EOF HP Manager are found in EPIP-06, Activation and Operation of the Emergency Operations Facility.

#### 3.3 Field Monitoring Team Communicator/Coordinator (FMT Comm/Coord)

1. In the TSC, the FMT Comm/Coord, with the concurrence of the TSCHPS, determines the monitoring points based upon meteorological conditions and population zones.
2. Communicates with the Field Monitoring Teams (FMTs) via the FPL radio system or telephone.
3. Informs the FMTs of all changes in pertinent meteorological and radiological data as well as in the status of the emergency and conditions at the plant.
4. Provides all survey results to the TSCHPS.
5. Tracks exposure levels of all members of the FMTs.

**NOTE**

When the EOF is operational, responsibility for determining sampling locations for the FMTs transfers to the EOF. The TSC retains the communication interface with the FMTs.

6. Provides all accumulated monitoring data to the EOF once it is manned.
7. Conducts a turnover with the FMT Coord in the EOF.

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 6 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**3.4 Field Monitoring Team Coordinator (FMT Coord)**

1. In the EOF, FMT Coord, with the concurrence of the EOF Health Physics Manager, determines the monitoring points based upon meteorological conditions, population zones, and previous sampling locations.
2. Coordinates field monitoring activities with the Florida Bureau of Radiation Control.
3. Provides all survey results to the EOF HP Manager.

**4.0 DEFINITIONS**

**4.1 Florida Bureau of Radiation Control** - a division of the State of Florida Department of Health, responsible for off-site radiological monitoring and operating the Mobile Emergency Radiological Laboratory (MERL).

**4.2 Release** (during any declared emergency) –

1. Any effluent monitor of (approximately) ten times or one decade above pre-transient values
- OR
2. Health Physics detecting airborne radioactivity levels in excess of 25 percent Derived Air Concentration (DAC) outside of plant buildings due to failure of equipment associated with the declared emergency.

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 7 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

## 5.0 INSTRUCTIONS

- 5.1** This section provides general information and instructions for members of the Emergency Response Organization (ERO).
- 5.2** Position specific checklists are included as attachments to this procedure.
- 5.3** Individuals specifically designated as members of the ERO are identified in the ERD.
- 5.4** When notified, ERO members are to report to their Emergency Response Facility (ERF) as quickly as possible if available and able to do so.
- 5.5** Reporting to Assigned Facility
1. Upon arrival at the TSC:
    - A. Sign in on the status board on the South (rear) wall of the facility in the space corresponding to your position (TSC HP Communicator - one of two).
    - B. Obtain a "Player" badge and place your name (and position title, if necessary) on the badge with a dry erase marker or in any other non-permanent manner.
    - C. Make your workstation/location operational.
    - D. Notify your supervisor or the TSC Supervisor of your readiness status.
    - E. Assist Security in establishing accountability by signing in on a form similar to Attachment 3A, TSC ERO Shift Staffing and Accountability Roster, to procedure EPIP-04, Activation and Operation of the Technical Support Center.
  2. Upon arrival at the EOF:
    - A. Present Security with a form of picture identification.
    - B. Inform Security of your "fitness for duty" status.
    - C. Obtain and wear a position specific access badge provided by Security.
      1. Place your name on the badge with a dry erase marker or in any other non-permanent manner.

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 8 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**5.5 Reporting to Assigned Facility (continued)**

**2.** (continued)

- D.** Sign in on the Staffing Board located on the south wall of the "bullpen" (room 101).
- E.** Make your workstation/location operational.
- F.** Notify your supervisor of your readiness status.

**5.6** §2 Only controlled copies of nuclear safety-related procedures, drawings, and other available plant information shall be used. Non-controlled documents or drawings should be verified with a controlled copy prior to use.

**5.7** During facility briefings, stop what you are doing, pay attention, and contribute, as requested.

**5.8** Upon termination of the event:

- 1.** Return workstation/location to a normal state and assist in restoring the facility to a ready condition.
- 2.** Collect all significant information and documentation, such as notes and completed data sheets (not bound in the procedure notebooks), and forward this material to the supervisor/manager of the facility.
- 3.** The emergency facility supervisor/manager will forward this paperwork to the Emergency Preparedness Supervisor.

**END OF SECTION 5.0**

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 9 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 1**  
**(TSC) FMT COORD/COOM CHECKLIST**  
(Page 1 of 4)

**NOTE**  
When necessary or appropriate, steps of this checklist may be performed out of sequence.

- |    |  |                |
|----|--|----------------|
| A. | ACTIVATION   | <u>INITIAL</u> |
|    | 1. Refer to section 5.0 of this procedure (included in the position notebook) and review the general instructions. | -----          |
|    | 2. Verify operability of HP radio, refer to Attachment 3, Communications Guidelines, to this procedure.            | -----          |

- |    |   |  |
|----|---|--|
| B. | OPERATION   |  |
|    | 1. Review Attachment 4, Field Monitoring Guidelines, to this procedure. |  |

**NOTE**  
Field Monitoring Teams may be activated at the discretion of the EC, but usually are dispatched based on emergency classification as follows:

Alert - dispatch one team to survey on-site/near-site

Site Area Emergency -dispatch three teams, one for on-site/near-site surveys and two teams for off-site surveys

General Emergency - same as for Site Area Emergency

- |    |  |       |
|----|--|-------|
| 2. | Determine status of FMTs from the TSCHP.   | ----- |
| 3. | Review areas to be surveyed with the TSCHPS with the aid of Attachment 5, Preselected On-site Monitoring Points, and Attachment 6, Preselected Off-site Monitoring Points. | ----- |
| 4. | Establish radio contact with FMTs.   | ----- |

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 10 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 1**  
**(TSC) FMT COORD/COOM CHECKLIST**  
(Page 2 of 4)

B. (continued)

**NOTE**

When the EOF is operational, responsibility for determining sampling locations for the FMTs transfers to the EOF. The TSC retains responsibility for:

1. Communications interface with the FMTs.
2. Exposure controls for FMTs.
3. Updating the FMTs on current conditions.

5. Steps to occur continually while this activity is underway:
  - a. Communicate with the FMTs via the HP Off-site Channel, refer to Attachment 3, Communications Guidelines.
  - b. Provide FMTs with sample locations.
  - c. Provide FMTs with sampling instructions (e.g., open and close window readings, air sample, etc.).
  - d. Record field survey data, use Attachment 7, Field Monitoring Teams Survey Results, to this procedure, refer to Attachment 7A, Field Monitoring Teams Survey Results - Instructions.
    - 1) Using carbon paper, make a copy as the data is entered into the form. Retain the original, provide the copy to the TSC Administrative Staff to update the status board.

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 11 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 1**  
**(TSC) FMT COORD/COOM CHECKLIST**  
(Page 3 of 4)

B. 5. (continued)

INITIAL

**NOTE**

- ¶<sub>2</sub> 1. The TSCHPS shall control the exposure for the FMT members to within FPL Administrative Exposure Limits of:
- A. 5 rem Total Effective Dose Equivalent (TEDE)
- OR
- B. 50 rem committed Dose Equivalent (CDE) to the thyroid from the inhalation of radioiodine.
- ¶<sub>1</sub> 2. FMT member exposures will be controlled by monitoring their Deep Dose Equivalent (DDE) and they shall be recalled from further exposure before exceeding 5 rem DDE.

- e. Track exposure levels of FMT members, use Attachment 8, Dose and Survey Data Worksheet, to this procedure, refer to Attachment 8A, Dose and Survey Data Worksheet - Instructions.
  - f. Inform the FMTs of all changes in pertinent meteorological and radiological data as well as in the status of the emergency and conditions at the plant.
  - g. Provide all survey results and FMT exposure levels to the TSCHPS.
    - 1) To estimate dose, dose rate, or concentration, refer to Attachment 9, Estimating Dose, Dose Rate, or Concentration At Other Distances.
6. Provide all accumulated monitoring data to the EOF. \_\_\_\_\_
7. Conduct a turnover with the FMT Coord in the EOF. \_\_\_\_\_

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 12 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 1**  
**(TSC) FMT COORD/COOM CHECKLIST**  
 (Page 4 of 4)

C. CLOSEOUT	<u>INITIAL</u>
1. Terminated all field sampling.	_____
2. Recalled all FMTs to the site.	_____
3. Instructed FMTs to return all equipment to the plant.	_____
4. Closed out the log.	_____
5. Provided all completed paperwork (not bound in the position notebook) to the TSCHPS.	_____
6. Returned position notebook to storage cabinet.	_____

**END OF ATTACHMENT 1**

RS

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 13 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 2**  
**(EOF) FMT COORD CHECKLIST**  
(Page 1 of 2)

**NOTE**  
When necessary or appropriate, steps of this checklist may be performed out of sequence.

- |    |   |                |
|----|---|----------------|
| A. | ACTIVATION  | <u>INITIAL</u> |
|    | 1. Refer to section 5.0 of this procedure (included in the position notebook) and review the general instructions.  | -----          |
|    | 2. Establish communications with the FMT Coord/Comm in the TSC.   | -----          |
|    | 3. Conduct turnover with the FMT Coord/Comm in the TSC.   | -----          |
| B. | OPERATION   |                |
|    | 1. Review Attachment 4, Field Monitoring Guidelines, to this procedure.   |                |
|    | 2. Review FMT results received from the TSC with the EOF HP Manager.  |                |
|    | 3. Take responsibility for selection of sampling locations for FMTs.  |                |
|    | 4. Review areas to be surveyed with the EOF HP Manager with the aid of Attachment 5, Preselected On-site Monitoring Points, and Attachment 6, Preselected Off-site Monitoring Points. |                |
|    | 5. Steps to occur continually while this activity is underway:  |                |

**NOTE**  
The FMT Coord/Comm in the TSC maintains responsibility for:

1. Communications interface with the FMTs.
2. Exposure controls for FMTs.
3. Updating the FMT on current conditions.

- a. Coordinate field monitoring activities with the TSC.
- b. Provide FMTs with sampling instructions (e.g., open and closed window readings, air samples, etc.).

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 14 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 2**  
**(EOF) FMT COORD CHECKLIST**  
(Page 2 of 2)

B. 5. (continued)

- c. Coordinate field monitoring activities with the Florida Bureau of Radiation Control.
- d. Record field survey data, use Attachment 7, Field Monitoring Teams Survey Results, refer to Attachment 7A, Field Monitoring Teams Survey Results - Instructions.
  - 1) Using carbon paper, make a copy as the data is entered into the form. Retain the original, provide the copy to the EOF Rad Status Board Keeper to update the status board.
- e. Provide all survey results to the EOF HP Manager.
  - 1) To estimate dose, dose rate or concentration, refer to Attachment 9, Estimating Dose, Dose Rate or Concentration At Other Distances.
- f. Post field monitoring locations and results on the EPZ map.

C. CLOSEOUT

- 1. Terminated all field sampling. \_\_\_\_\_
- 2. Provided all completed paperwork (not bound in the position notebook) to the EOF HP Manager. \_\_\_\_\_
- 3. Returned position notebook to the Recovery Manager's office. \_\_\_\_\_

**END OF ATTACHMENT 2**

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 15 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 3**  
**COMMUNICATIONS GUIDELINES**

(Page 1 of 3)

**NOTE**

If communications are associated with drill or exercise, the statement "This is a drill" should precede and follow the actual message.

A. HP OFF-SITE RADIO CHANNEL

A unique 900 MHz channel for communications with the off-site FMTs. The table radio, labeled "Off-site Radio" can be operated either by depressing the "transmit" button on the console or by removing the handset and depressing the "push-to-talk" bar in the handset. The "xmit" light is lit during transmission. (Preference should be given to using the handset.)

B. GENERAL GUIDELINES

1. Always speak clearly, firmly, and with normal tone when using any communication system.
2. The sender and receiver shall be clearly identified.
3. Message text:
  - a. Communication must be free of ambiguity. Slang terms shall not be used. Avoid the use of words that sound alike; for example, avoid increase and decrease, use raise and lower instead.
  - b. Communications must be specific. Use noun names for plant equipment, not acronyms; for example use low pressure safety injection pump instead of LPSI.

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 16 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 3**  
**COMMUNICATIONS GUIDELINES**  
(Page 2 of 3)

B. 3. (continued)

- c. The phonetic alphabet should be used to identify specific train, bus, channel, or equipment designations, not just letter identifier; for example, refer to the 1Alpha heater drain pump, not the 1A heater drain pump. The following is the phonetic alphabet to be used:

A	Alpha	J	Juliet	S	Sierra
B	Bravo	K	Kilo	T	Tango
C	Charlie	L	Lima	U	Uniform
D	Delta	M	Mike	V	Victor
E	Echo	N	November	W	Whiskey
F	Foxtrot	O	Oscar	X	X-ray
G	Golf	P	Papa	Y	Yankee
H	Hotel	Q	Quebec	Z	Zulu
I	India	R	Romeo		

- d. The phonetic alphabet should not be used for stringed letter references, acceptable acronyms, or location symbols; for example, AB bus, AC or DC, TSC, respectively.

4. Acknowledgement and confirmation (3-way communication) - messages shall be comprised of proper transmission, acknowledgement, and confirmation.
- a. The message is properly transmitted from the originator to the receiver.
- b. The message receiver shall acknowledge the communication by giving functional repeat-back to the message originator. The repeat-back can be provided by either paraphrasing or explaining the message in one's own words, or by verbatim repeat-back. In all cases, verbatim repeat-back shall be used for equipment identifiers.

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 17 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 3**  
**COMMUNICATIONS GUIDELINES**

(Page 3 of 3)

- B. 4. (continued)
- c. If the message receiver does not understand the message, he/she shall ask for the message to be repeated.
  - d. If an incorrect repeat-back is given, the message originator shall immediately correct the miscommunication with a statement such as, "WRONG", followed by restating the correct message.
  - e. The message originator shall confirm the acknowledgement (repeat-back) with a statement such as, "That is correct".
5. Use of the Call Sign is not necessary when communicating with the HP Off-site Channel radio (station ID occurs every 30 minutes automatically).
6. Prior to transmission, ensure that information has been verified and approved by the appropriate authority, as necessary.
7. Ensure that any incoming pertinent information is provided to the TSCHPS.
8. Maintain documentation of any significant information provided or received.

**END OF ATTACHMENT 3**

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 18 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 4**  
**FIELD MONITORING GUIDELINES**  
(Page 1 of 1)

Purpose

The purpose of field monitoring is to detect and characterize an airborne plume of radioactive material. This could be the only source of information for an unmonitored release.

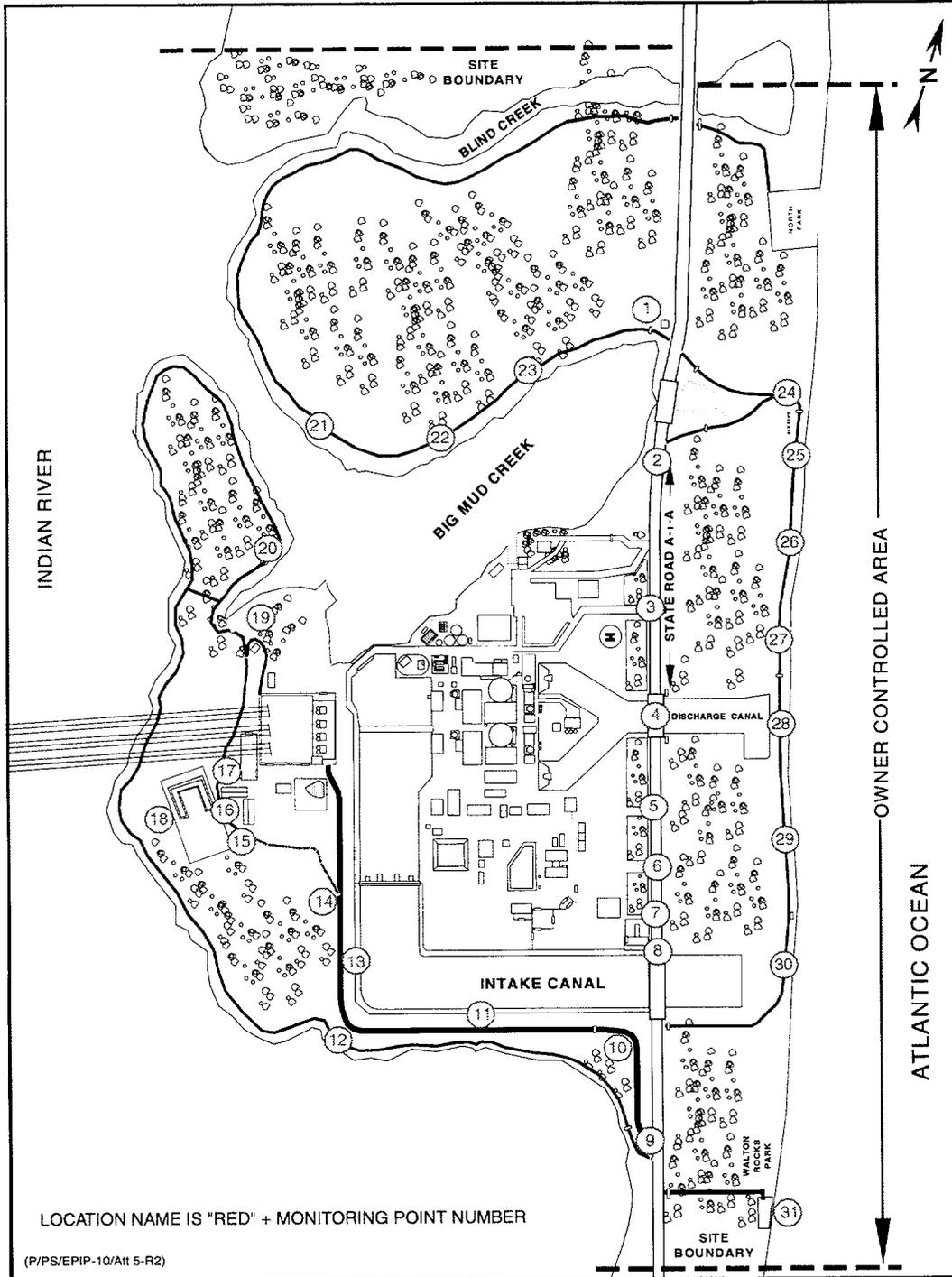
Strategy

1. Disperse teams as follows:
  - Owner Controlled Area, one team
  - Left and right of the plume centerline at some distance (e.g., 2-5 miles), two teams
2. Determine if a release is in progress (i.e., has any FMT reported survey meter readings greater than background).
3. Estimate plume location by using wind speed, wind direction, and time of release.
4. If doses or projections are not limiting, attempt to characterize plume width and location of plume centerline (= highest reading on a transverse path across the plume).
5. To assess radiological composition, obtain and analyze an air sample to establish an iodine to noble gas ratio.
6. Attempt to determine actual plume boundaries, use predesignated monitoring locations as reference points, to ensure appropriate Protective Actions are in place (or recommended) for areas impacted by the plume.
7. Collaborate with State teams to increase data collected and maximize resources (cover as large an area as possible or needed).
8. Results of field monitoring provide feedback to dose calculations/assessment; SURVEY DOSE RATES SHOULD NEVER EXCEED PROJECTED DOSE RATES.

**END OF ATTACHMENT 4**

REVISION NO.: <b>5</b>	PROCEDURE TITLE: <b>OFF-SITE RADIOLOGICAL MONITORING</b>	PAGE: <b>19 of 35</b>
PROCEDURE NO.: <b>EPIP-10</b>	<b>ST. LUCIE PLANT</b>	

**ATTACHMENT 5**  
**PRESELECTED ON-SITE MONITORING POINTS**  
(Page 1 of 4)



REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 20 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 5**  
**PRESELECTED ON-SITE MONITORING POINTS**  
(Page 2 of 4)

MONITORING POINT	LOCATION	DISTANCE FROM PLANT (MILES)	EPZ SECTOR
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

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 21 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 5**  
**PRESELECTED ON-SITE MONITORING POINTS**  
(Page 3 of 4)

MONITORING POINT	LOCATION	DISTANCE FROM PLANT (MILES)	EPZ SECTOR
Red-14	Ball Park Road (@ left turn towards Gun Range/ Picnic Pavilion)	0.3	K
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

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 22 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 5**  
**PRESELECTED ON-SITE MONITORING POINTS**  
(Page 4 of 4)

MONITORING POINT	LOCATION	DISTANCE FROM PLANT (MILES)	EPZ SECTOR
Red-27	Concrete power pad	0.5	C
Red-28	Discharge Canal Header	0.5	D
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

**END OF ATTACHMENT 5**



REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 24 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 6**  
**PRESELECTED OFF-SITE MONITORING POINTS**  
(Page 2 of 5)

MONITORING POINT	LOCATION	DISTANCE FROM PLANT (MILES)	EPZ SECTOR
R2	S.R. A1A, NNW of plant site (Little Mud Creek Bridge)	2.3	R
R7	Intersection of 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 of 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

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 25 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 6**  
**PRESELECTED OFF-SITE MONITORING POINTS**  
(Page 3 of 5)

MONITORING POINT	LOCATION	DISTANCE FROM PLANT (MILES)	EPZ SECTOR
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 Christiansen Rd. (at siren)	7.1	P
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

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 26 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 6**  
**PRESELECTED OFF-SITE MONITORING POINTS**  
(Page 4 of 5)

MONITORING POINT	LOCATION	DISTANCE FROM PLANT (MILES)	EPZ SECTOR
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
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

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 27 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 6**  
**PRESELECTED OFF-SITE MONITORING POINTS**  
(Page 5 of 5)

MONITORING POINT	LOCATION	DISTANCE FROM PLANT (MILES)	EPZ SECTOR
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. (S.R. 723) 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. (Elliott Museum)	9.8	H

**END OF ATTACHMENT 6**



REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 29 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 7A**  
**FIELD MONITORING TEAMS SURVEY RESULTS - INSTRUCTIONS**  
(Page 1 of 2)

The following instructions are provided for the completion of Attachment 7. The columns in Attachment 7 have been numbered from 1-9. An explanation of the data expected in each column is provided below. Prior to entering data into the table, place the date at the top of the page. Use multiple forms as necessary and number sequentially. Print your name at the bottom of each form and initial.

1. Time of Survey - This is the time that survey data was gathered in the field, time should be based on a 24 hour clock (e.g., 2 a.m. = 0200 hours and 7 p.m. = 1900 hours).
2. Wind Direction - This is the direction FROM which the wind is blowing, this information is posted on and should be obtained from the dose assessment status board.
3. Affected Sectors - The affected sectors are determined by the wind direction, 3 (or possibly 4) sectors are affected, this information is posted on and should be obtained from the dose assessment status board.
4. Team - There are 3 FPL FMTs, usually designated R = red, O = orange, and B = blue, the R team is usually the first dispatched and conducts surveys on-site/near-site, the other two teams go off-site.
5. Miles from Plant - This is determined by the sampling location.
  - A. On-site/near-site Team (=Red Team) - Monitoring locations within the Owner Controlled Area are given in Attachment 5, Preselected On-site Monitoring Points. Each location is designated as "Red - monitoring point number" (e.g., Red-25). The distance from the plant as well as a description of the location of each monitoring point is provided as part of the attachment.
  - B. Off-site Teams (=Orange and Blue Teams) - Monitoring locations within the 10 mile EPZ, outside the Owner Controlled Area, are given in Attachment 6, Preselected Off-site Monitoring Points. If a preselected monitoring point is used, the designation gives both sector and distance (e.g., point R9 is approximately 9 miles from the plant in Sector R). The preselected monitoring points can also be used to estimate distances.

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 30 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 7A**  
**FIELD MONITORING TEAMS SURVEY RESULTS - INSTRUCTIONS**  
(Page 2 of 2)

6. Survey Location - If a preselected monitoring location is used, a location designation is provided for each point in both Attachments 5 and 6. If other points are used, the FMT should provide a clear location (e.g., distance from and name of closest intersection or landmark).
7. Survey Results –
  - A. Plume DDE (mrem/hr) - This is a measure of external exposure, measured by a survey meter (dose rate meter). The recorded value is the closed window reading in millirem per hour.
  - B. Thyroid CDE (mrem/hr) - This is a measure of thyroid dose rate due to inhalation of radioiodines. The thyroid dose rate is calculated using Attachment 7B, Estimate of Thyroid Dose Rate, to this procedure. The recorded value is in millirem per hour.
8. Survey Greater Than Projected (Y/N) - Field monitoring results provide important feedback on the accuracy of dose projections. Field readings should be compared to projected doses and dose rates and reviewed with the TSCHPS or EOF HP Manager, as appropriate. Example: compare the measured dose rate at 5 miles at 1045 with the dose rate at 5 miles from the 0830 2 hour projection, field readings should never exceed projections.
9. Comments - Record any significant extra or useful information.

**END OF ATTACHMENT 7A**

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 31 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 7B**  
**ESTIMATE OF THYROID DOSE RATE**  
(Page 1 of 1)

Field Monitoring Teams will take direct radiation readings and air samples and analyze air samples for radioiodine (I-131) concentration.

1. Radioiodine (I-131) analysis should normally be performed using portable analyzers with scintillation detectors.
2. Thyroid Dose (CDE) Rate, from the inhalation of iodines, is estimated using the following equation:

$$\underline{\quad A \quad} \text{ (mrem/hr)} = 1.3 \text{ E}+9 \times \underline{\quad B \quad} \times \underline{\quad C \quad} \text{ (uCi/ml)}$$

Where A = Thyroid Dose (CDE) Rate

B = Factor from table below

C = Iodine 131 concentration measured in the field (from HP 202.1, Environmental Airborne Activity Calculation Form.)

Time is Hours since Reactor Trip			
Time (hour)	Factor	Time (hour)	Factor
0	1.45	9	1.32
1	1.43	10	1.30
2	1.41	11	1.29
3	1.40	12	1.28
4	1.38	13	1.28
5	1.37	14	1.27
6	1.35	15	1.26
7	1.34	24	1.19
8	1.33	36	1.13

3. Plug in values for B and C to calculate the Thyroid Dose (CDE) Rate.

$$\text{-----} \text{ (mrem/hr)} = 1.3 \text{ E}+9 \times \text{-----} \times \text{-----} \text{ (uCi/ml)}$$

**END OF ATTACHMENT 7B**

REVISION NO.: <b>5</b>	PROCEDURE TITLE: <b>OFF-SITE RADIOLOGICAL MONITORING</b>	PAGE: <b>32 of 35</b>
PROCEDURE NO.: <b>EPIP-10</b>	<b>ST. LUCIE PLANT</b>	

**ATTACHMENT 8**  
**DOSE AND SURVEY DATA WORKSHEET**  
(Page 1 of 1)

**NOTE**  
Recall a Field Monitoring Team from further exposure before either member exceeds 5,000 mrem (DDE).

Member A: \_\_\_\_\_

Team: \_\_\_\_\_ Member B: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

1 Survey Location	2 Sector	3 Time of Survey	4 Measured Gamma Dose Rate (mrem/hr)	5 Measured Iodine -131 (µCi/ml)	6 Time in Plume (minutes)	7 DRD Reading (mrem)	8 Thyroid Dose (mrem)
			OPEN		A		
			CLOSED		B		
			OPEN		A		
			CLOSED		B		
			OPEN		A		
			CLOSED		B		
			OPEN		A		
			CLOSED		B		
			OPEN		A		
			CLOSED		B		
			OPEN		A		
			CLOSED		B		
			OPEN		A		
			CLOSED		B		
			OPEN		A		
			CLOSED		B		

**END OF ATTACHMENT 8**

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 33 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 8A**  
**DOSE AND SURVEY DATA WORKSHEET - INSTRUCTIONS**  
(Page 1 of 2)

The following instructions are provided for the completion of Attachment 8. The columns in Attachment 8 have been numbered from 1-7. An explanation of the data expected in each column is provided below. One data sheet is to be used for each FMT (red, orange, blue). The team and the names of the two members of each team are to be filled-in at the top of the form. Prior to entering data into the table, place the date at the top of the page. Use multiple forms for each team as necessary and number sequentially. Print your name at the bottom of each form and initial.

1. Survey Location - If a preselected monitoring location is used, a location designation is provided for each point in both Attachment 5, Preselected On-site Monitoring Points, and Attachment 6, Preselected Off-site Monitoring Points. If other points are used, the FMT should provide a clear location (e.g., distance from and name of closest intersection or landmark).
2. Sector - The 10 mile Emergency Planning Zone (EPZ) around St. Lucie Plant is divided into 16 sectors which are labeled A-R (I and O are not used). Identify the sector in which the field data was collected. Refer to the FPL Environmental Survey Map (10 mile EPZ) posted in the TSC. The 10 mile EPZ is also shown on Page 1 of Attachment 6.
3. Time of Survey - This is the time that survey data was gathered in the field, time should be based on a 24 hour clock (e.g., 2 a.m. = 0200 hours and 7 p.m. = 1900 hours).
4. Measured Gamma Dose Rate (mrem/hr) - This is direct radiation measure of dose rate from a survey meter, recorded in millirem per hour. Both an open and closed window reading should be recorded. The open window reading allows for an estimate of beta dose.
5. Measured Iodine - 131 ( $\mu\text{Ci/ml}$ ) - This is an air sample in which the concentration of Iodine - 131 is measured in a certain volume, recorded in microcuries per milliliter.

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 34 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 8A**  
**DOSE AND SURVEY DATA WORKSHEET - INSTRUCTIONS**

(Page 2 of 2)

6. Time in Plume (Minutes) - This is the time the FMT members actually spent in the plume. It is recorded as a separate measure for each team member. The value is recorded in minutes.
7. DRD Reading (mrem) - This is a Direct Reading Dosimeter (DRD) reading that should be recorded each time the FMT member exits the plume. The DRD records a cumulative dose. The value is recorded in millirem. Electronic Personal Dosimeters (EPDs) may also be used with the DRDs.
8. Thyroid Dose (mrem) - Thyroid dose is determined by multiplying the dose rate calculated in Attachment 7B, Estimate of Thyroid Dose Rate, times the time in the plume (column 6). The value is recorded in millirem.

**END OF ATTACHMENT 8A**

REVISION NO.: 5	PROCEDURE TITLE: OFF-SITE RADIOLOGICAL MONITORING	PAGE: 35 of 35
PROCEDURE NO.: EPIP-10	ST. LUCIE PLANT	

**ATTACHMENT 9**  
**ESTIMATING DOSE, DOSE RATE OR CONCENTRATION AT OTHER DISTANCES**  
(Page 1 of 1)

**CAUTION**  
As with any approximation, caution and judgement should be applied when using an estimated value.

- To estimate dose, dose rate or concentration at a distance other than where surveys were taken, use the following equation:

$$E = M * (MD/ED)^Z$$

Where E = estimated dose, dose rate or concentration

ED = distance at which an estimated dose, dose rate or concentration is desired

M = actual measured dose, dose rate or concentration

MD = distance at which the actual measured dose, dose rate or concentration was taken

Z = exponent based on stability class

Stability Class	Z Value
A, B	2.0
C, D	1.5
D, E, F	1.0

(based on EPA-400, Chapter 5)

**END OF ATTACHMENT 9**



# ST. LUCIE PLANT HEALTH PHYSICS PROCEDURE

SAFETY RELATED

Procedure No.  
**HP-90**

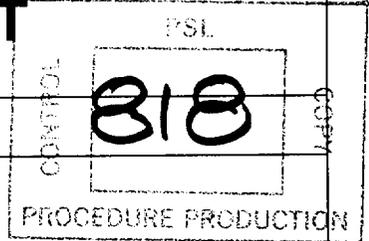
Current Rev. No.  
**38**

Effective Date:  
**11/19/01**

Title:

## EMERGENCY EQUIPMENT

Responsible Department: **HEALTH PHYSICS**



### Revision Summary

**Revision 38** - Changed to reflect moving of emergency monitoring kits from SAS to OSC area in SSB. (Don Reisinger, 11/12/01)

**Revision 37** - Deleted references to STA, revised TSC commo survey referent to EPIP-13, revised replacement time for failed major equipment within the OCA to 24 hours, made editorial changes, and revised attachments/forms from HP-206 to be included in e-kits. (J. R. Walker, 12/07/00)

**Revision 36** - Added check of fax machines and copy machines and deleted unnecessary letter references to specific copies of ERD. (Steve Knapp, 10/28/99)

**Revision 35** - Revised references to delete C-111 and added COP-06.11. Revised text and checklists to delete C-111 and added COP-06.11. Updated EP Supervisor information. Made administrative changes. (Rick Walker, 06/30/99)

Revision	FRG Review Date	Approved By	Approval Date	
0	06/24/75	K. N. Harris Plant General Manager	09/11/75	S__OPS DATE _____ DOCT PROCEDURE DOCN HP-90 SYS _____ COMP COMPLETED ITM 38
38	11/12/01	R. G. West Plant General Manager	11/12/01	
		N/A Designated Approver		
		N/A Designated Approver (minor correction)		

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

1.0 TITLE:

EMERGENCY EQUIPMENT

2.0 REVIEW AND APPROVAL:

See cover sheet.

3.0 PURPOSE:

This procedure gives the instructions to be used when conducting inventories and maintenance of HP Emergency Kits.

4.0 PRECAUTIONS AND LIMITATIONS:

- 4.1 Item substitution is authorized only if the substituted item is comparable/equivalent to the original equipment.
- 4.2 All emergency equipment shall be checked and inventoried once each month and within five (5) working days following each use.
- 4.3 Items found in Emergency Kits which do not appear on the inventory sheets shall be removed and relocated in accordance with the instructions of a Health Physics Supervisor. This does not apply at hospitals, where FPL and non-FPL supplies may be collocated in accordance with hospital staff preferences.
- 4.4 In years ending in zero (0) or five (5), all inventoried equipment should be evaluated with respect to age, wear and need for replacement or upgrade.
- 4.5 Kit check sources used to test instrument operability should NOT be stored near the kit TLDs.
- 4.6 Silver impregnated zeolite cartridges may be properly stored for a period of five years from the date of manufacture.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

4.0 PRECAUTIONS AND LIMITS: (continued)

4.7 Electronic Personnel Dosimeters (EPD) stored in the Control Rooms and offsite monitoring team kits shall be programmed to:

1. Display both Dose and Dose Rate.
2. Activate by pushing the pushbutton.
3. Alarm on a dose of 4.5R and a Dose Rate of 10R/hr.

¶ 4.8 When notified by Emergency Planning that a revision to a procedure contained in the HP Emergency Kits has been issued, HP should update the procedure with the new revision within five (5) working days.

4.9 Full face respirators in the Emergency Kits shall be visually inspected in accordance with the requirements of HPP-62, Inspection and Maintenance of Respiratory Protection Equipment.

5.0 RELATED SYSTEM STATUS:

NONE

6.0 REFERENCES:

- 6.1 St. Lucie Plant Radiological Emergency Plan (E-Plan)
- 6.2 E-Plan Implementing Procedures (EPIP 00-13)
- 6.3 St. Lucie Plant Emergency Response Directory (ERD)
- 6.4 Florida Power & Light Company, St. Lucie Plant Recovery Plan
- 6.5 HPP-62, "Inspection and Maintenance of Respiratory Protection Equipment."
- 6.6 HPP-70, "Personnel Contamination Monitoring and Decontamination Procedure."
- 6.7 HPP-101, "Identification and Reporting of Radiological Events."
- 6.8 Health Physics Procedures, HP-200 Series
- 6.9 COP-06.06, "Guidelines for Collecting Post Accident Samples."

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

6.0 REFERENCES:

- 6.10 COP-06.11, "Establishing Remote Laboratory for Analyses of Accident Samples."
- 6.11 OP 1-0010125, "Schedule of Periodic Tests, Checks and Calibrations."
- 6.12 OP 2-0010125, "Schedule of Periodic Tests, Checks and Calibrations."
- 6.13 NRC Generic Letter 91-14, Emergency Telecommunications.
- 6.14 NRC Administrative Letter 94-04, Change of the NRC Operations Center Commercial Telephone and Facsimile Numbers.
- 6.15 OSHA 1926.404(b)(iii), Assured Equipment Grounding Conductor Program.
- ¶<sub>1</sub> 6.16 PMAI number PM 97-04-006, EPIP Updates in HP EKits
- ¶<sub>2</sub> 6.17 PMAI number PM 97-04-147, Shaving Supplies in HP EKits
- ¶<sub>3</sub> 6.18 PMAI number PM 97-07-142, First-aid Kit in Site Assembly Station
- ¶<sub>4</sub> 6.19 PMAI number PM 99-09-076, Fax and Copy Machine Tests

7.0 RECORDS REQUIRED:

- 7.1 Inventory sheets for each of the locations listed in 8.2 below (HP-90) - Attachments #1-7 shall be maintained in the plant files in accordance with QI-17-PSL-1 "Quality Assurance Records."

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

8.0 INSTRUCTIONS:

8.1 Prior to conducting inventories of the kits:

1. Ascertain the current revision number of Emergency Planning documents.
  - A. Contact the Nuclear Records Vault for 1, 2 and 3 below.
  - B. Access the Controlled Electronic Procedure Index (in Lotus Notes) for all other documents (4-10 below).

NOTE

Kits designating that full sets of EIPs and/or HP-200 series procedures are available, shall contain all the procedures in Table 1 and/or Table 2, as applicable.

1. St. Lucie Plant Radiological Emergency Plan (E-Plan)
2. St. Lucie Plant Emergency Response Directory (ERD)
3. Florida Power & Light Company, St. Lucie Plant Recovery Plan
4. EIPs (see Table 1)
5. HP-200 Series (see Table 2)
6. HPP-70, "Personnel Contamination Monitoring," (Form HPP-70.1, Personnel Skin and Clothing Contamination Report)
7. HP-90, "Emergency Equipment"
8. HPP-101, "Identification and Reporting of Radiological Events," (Form HPP-101.1, Radiological Event Report)
9. COP-06.06, "Guidelines for Collecting Post Accident Samples"
10. COP-06.11, "Establishing Remote Laboratory for Analyses of Accident Samples."

The procedure distribution is listed on the inventory sheet.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

8.0 INSTRUCTIONS: (continued)

8.1 (continued)

2. Contact Emergency Planning to determine if any procedure revisions are available to be added to the emergency kits.
3. Contact Land Utilization to arrange for access to the Emergency Operations Facility (EOF), if necessary (i.e., not on the access list).

8.2 Inventory all items, verifying that the proper supplies are present. Use the appropriate inventory list.

1. Attachment 1 - Unit 1 Control Room/Technical Support Center Emergency Kit
2. Attachment 2 - Unit 2 Control Room Emergency Kit
3. Attachment 3 - Operational Support Center Emergency Kit
4. Attachment 4 - Site Assembly Station Emergency Kit
5. Attachment 5 - Field Monitoring Team Emergency Kit (complete 1 attachment for each kit)
6. Attachment 6 - Emergency Operations Facility Emergency Kit
7. Attachment 7 - Hospital Emergency Kit (complete one attachment for each hospital)

/R38

8.3 Any equipment which is out of calibration, fails the operability check, or appears to be unusable shall be replaced.

1. An asterisk designates a major piece of equipment. If a major piece of equipment is found to be deficient, the equipment must be replaced as follows:
  - A. For Emergency Kits located within the Owner Controlled Area - within 24 hours.
  - B. For Emergency Kits located outside the Owner Controlled Area - within 48 hours.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

8.0 INSTRUCTIONS: (continued)

- 8.4 Quantities of non-asterisked inventory items may be exceeded, but shall not be less than that indicated on the attachment. An item found to be in a quantity less than that listed on the attachment shall be replenished by the time of the next inventory.
- 8.5 Perform operability checks of instruments in accordance with Appendix A, Operability Instructions.
- 8.6 Verify that dosimetry is current.

NOTE

Not all dosimetry is required in each Emergency Kit.

1. Direct Reading Dosimeter (DRD). DRDs are calibrated every six (6) months.
  - A. 0-500 mR
  - B. 0-5 R
  - C. 0-20 R
  - D. 0-100 R
2. Electronic Personal Dosimeter (EPD)
  - A. Alarm Setpoint, Dose: 4.5 R
  - B. Alarm Setpoint, Dose Rate: 10 R/hr
3. Thermoluminescent Dosimeter (TLD). TLDs are changed out in the kits on a semi-annual basis.
  - A. Whole Body
  - B. Extremity
  - C. Finger Rings

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

8.0 INSTRUCTIONS: (continued)

- 8.7 Verify that respirators are visually inspected as prescribed in HPP-62, Inspection and Maintenance of Respiratory Protection Equipment.
- 8.8 Verify that silver zeolite cartridges are current. Inform the Health Physics Technical Supervisor when the posted shelf life of the cartridges is within three (3) months of expiring.
- 8.9 Extension cords stored in the Emergency Kits shall be tested or replaced with tested extension cords after use.
1. A testing device is available in each kit which has extension cords.
  2. Record test results or cord replacement in the "Remarks" section (e.g., all extension cords passed; one extension cord replacement due to test failure).

NOTE

The portable count rate instruments (friskers) and the dual channel analyzers are exempt from this instruction because they require re-chargeable batteries. Spare instruments are available as backups should one of these instruments (friskers) experience battery failure.

- 8.10 Verify that there is a sufficient supply of spare batteries available for all instruments and equipment requiring batteries.
1. Replace any battery or package of batteries which is approaching (within one (1) month) or exceeds its expiration date or shelf life.
  2. Every January and July, inspect batteries in all instruments and equipment for signs of deterioration or leaks and replace, as necessary.
- 8.11 Verify that the procedures contained in the kit are the current revisions, if not, replace procedure with a **controlled copy** of the current revision.
- 8.12 Perform monthly test of communications equipment with state and local governments and the NRC in accordance with Appendix B, Instructions for Testing Emergency Communications Equipment.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

8.0 INSTRUCTIONS: (continued)

8.13 Complete the inventory form as follows:

1. Indicate the results of the operability checks of the kit instruments by marking "Pass" or "Fail" on the appropriate attachment. Record any discrepancy in the "Remarks" section.
2. Dosimetry, dress-out supplies, and other equipment should be evaluated against the "Minimum Quantity" requirements as listed on the inventory form. Record the "As Found" condition as either "Pass" or "Fail". Indicate any discrepancy in the "Remarks" section.
3. Review all documents, procedures, and logs and show whether they are "Available" or "Unavailable". Record any discrepancy in the "Remarks" section.
4. Indicate the results of the communications tests by marking "Pass" or "Fail" on the appropriate attachment. Record any discrepancy in the "Remarks" section.
5. Upon completion of the inventory, close and lock the kit and sign and date the attachment in the blanks labeled "Inventoried by" and "Date".

8.14 A copy of each completed inventory (attachment) is required.

1. Conspicuously post the copy of the inventory on the front of the Emergency Kit for ready reference by the next user of the kit.
2. Provide the original to an HP Supervisor for review.

8.15 An HP Supervisor shall review all completed inventories.

1. A PMAI is to be issued by the reviewing HP Supervisor for each item which is not addressed in 8.3 or 8.4 above and can not be resolved within five (5) working days of identification.

The PMAI number is to be recorded in the "Remarks" section of the affected attachment.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

8.0 INSTRUCTIONS: (continued)

8.15 (continued)

2. Sign and date the reviewed inventories in the "Reviewed by" and "Date" blanks on each attachment.
3. A copy of each reviewed attachment is to be forwarded to Emergency Planning.
4. The originals of all reviewed attachments are to be sent to the Nuclear Records Vault.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**TABLE 1**  
**EMERGENCY PLAN IMPLEMENTING PROCEDURES**

EPIP-00 -	"Discovery & Identification of an Emergency Condition (Including Chemical, Fire and Natural Emergencies)"
EPIP-01 -	"Classification of Emergencies"
EPIP-02 -	"Duties and Responsibilities of the Emergency Coordinator"
EPIP-03 -	"Emergency Response Organization Notification/Staff Augmentation"
EPIP-04 -	"Activation and Operation of the Technical Support Center"
EPIP-05 -	"Activation and Operation of the Operational Support Center"
EPIP-06 -	"Activation and Operation of the Emergency Operations Facility"
EPIP-07 -	"Conduct of Evacuations/Assembly"
EPIP-08 -	"Off-site Notifications and Protective Action Recommendations"
EPIP-09 -	"Off-site Dose Calculations"
EPIP-10 -	"Off-site Radiological Monitoring"
EPIP-11 -	"Core Damage Assessment"
EPIP-12 -	"Maintaining Emergency Preparedness - Radiological Emergency Plan Training"
EPIP-13 -	"Maintaining Emergency Preparedness - Emergency Exercises, Drills, Tests and Evaluations"

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**TABLE 2**  
**HP-200 SERIES PROCEDURES**

- HP-200 - "Health Physics Emergency Organization"
- HP-201 - "Emergency Personnel Exposure Control"
- HP-202 - "Environmental Monitoring During Emergencies"
- HP-203 - "Personnel Access Control During Emergencies"
- HP-204 - "In-Plant Radiation and Contamination Surveys During Emergencies"
- HP-205 - "Emergency In-Plant Air Sampling"
- HP-206 - "Analysis of Emergency In-Plant Air Samples"
- HP-207 - "Monitoring Evacuated Personnel During Emergencies"
- HP-208 - "Personnel Decontamination During Emergencies"

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 1**  
**UNIT 1 CONTROL ROOM/TECHNICAL SUPPORT CENTER EMERGENCY KIT**  
(Sheet 1 of 4)

NOTE

Inspect all batteries during January and July inventories.

INSTRUMENTS		Pass	Fail
*	1. Portable Dose Rate Instrument ( $\geq 5R/hr$ )		
	Model No.:                      Serial No.:                      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
*	2. Portable Count Rate (Frisker) Instrument		
	Model No.:                      Serial No.:                      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
*	3. Portable Count Rate (Frisker) Instrument		
	Model No.:                      Serial No.:                      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
*	4. Dual Channel Analyzer		
	Model No.:                      Serial No.:                      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
DOSIMETRY		Minimum Quantity	As** Found
*	1. TLD, Whole Body                      Semi-annual:	53	
*	2. TLD, Finger Ring                      Semi-annual:	16	
*	3. TLD, Multibadge                      Semi-annual:	50	
*	4. DRD, 0-500 mR                      Calib. Due Date:	50	
*	5. DRD, 0-5R                      Calib. Due Date:	10	
*	6. DRD, 0-100R                      Calib. Due Date:	5	
***	7. Electronic Dosimeter                      Calib. Due Date:	10	

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

\*\*\* Alarm Setpoint: Dose - 4.5R; Dose Rate 10R/hr.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 1**  
**UNIT 1 CONTROL ROOM/TECHNICAL SUPPORT CENTER EMERGENCY KIT**  
(Sheet 2 of 4)

NOTE

Inspect all batteries during January and July inventories.

DRESS-OUT SUPPLIES	Minimum Quantity	As** Found
1. Coveralls	20	
2. Cloth Hood	20	
3. Cotton Liners (pr.)	20	
4. Rubber Gloves (pr.)	20	
5. Surgical Gloves (pr.)	20	
6. Rubber Shoe Covers (pr.)	20	
7. Plastic Booties (pr.)	20	
8. T-Cuts (pr.)	20	
9. Whirl-Pack	50	
10. Tape (2" roll)	5	

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 1**  
**UNIT 1 CONTROL ROOM/TECHNICAL SUPPORT CENTER EMERGENCY KIT**  
(Sheet 3 of 4)

NOTE

Inspect all batteries during January and July inventories.

OTHER EQUIPMENT	Minimum Quantity	As** Found
1. SCBA	5	
* 2. Air Sampler Model No.:      Serial No.:      Calib. Due Date:	1	
3. Silver Zeolite Cartridges      Exp. Date:	5	
4. Particulate Filters	6	
5. Whirl-Packs (labeled Air Sample Data)	6	
6. Full-Face Respirator (perform visual inspection, update card)	8	
7. Charcoal Canister    Exp. Date:	16	
8. Dosimeter Charger	2	
9. Contamination Smears and Envelopes/Folders	500	
10. Radiation Barrier Tape/Rope/Ribbon	N/A	
11. Radiation Sign and Assorted Inserts	5	
12. Step-off Pads	10	
13. Poly Bags (yellow)	10	
14. Extension Cord (HD)	3	
15. Extension Cord Adapter - White	3	
16. Extension Cord Adapter - Red	3	
17. Plastic Rainsuits	20	
18. Batteries - complete set of replacement batteries, both type and number, available for all equipment requiring batteries; check shelf life.	N/A	
19. Telephone Headset	1	

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 1**  
**UNIT 1 CONTROL ROOM/TECHNICAL SUPPORT CENTER EMERGENCY KIT**  
(Sheet 4 of 4)

NOTE

Inspect all batteries during January and July inventories.

DOCUMENTS, PROCEDURES, LOGS	Avail.	Unavail.
1. PSL Emergency Plan (check for current revision)		
2. EIPs (full set) (check for current revisions)		
3. Emergency Response Directory (check for current revision)		
4. HP-90 (check for current revision)		
5. HP-200 Series (full set) (check for current revisions)		
6. HP-206: Attachments 1, 2, 3 and Forms HP-206.1 and HP-206.2 (10 copies each) (check for current revision)		
7. COP-06.06 (check for current revision)		
8. COP-06.11, "Establishing Remote Laboratory for Analyses of Accident Samples" (check for current revision)		
9. Radiation Exposure Summary Report		
10. Control Room Rad Survey Maps (10 copies)		
11. Laminated Floor Plan Maps with Index for Rad Survey (full set)		
12. Field Monitoring Maps		

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

Remarks: \_\_\_\_\_

Inventoried by: \_\_\_\_\_ Reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_ Date: \_\_\_\_\_

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 2**  
**UNIT 2 CONTROL ROOM EMERGENCY KIT**  
(Sheet 1 of 4)

NOTE

Inspect all batteries during January and July inventories.

INSTRUMENTS		Pass	Fail
*	1. Portable Dose Rate Instrument ( $\geq 5$ R/hr)		
	Model No.:                      Serial No.:                      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
*	2. Portable Count Rate (Frisker) Instrument		
	Model No.:                      Serial No.:                      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
*	3. Portable Count Rate (Frisker) Instrument		
	Model No.:                      Serial No.:                      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
*	4. Dual Channel Analyzer		
	Model No.:                      Serial No.:                      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
DOSIMETRY		Minimum Quantity	As** Found
*	1. TLD, Whole Body                      Semi-annual:	10	
*	2. TLD, Finger Ring                      Semi-annual:	12	
*	3. TLD, Multibadge                      Semi-annual:	50	
*	4. DRD, 0-500 mR                      Calib. Due Date:	10	
*	5. DRD, 0-5R                      Calib. Due Date:	10	
*	6. DRD, 0-100R                      Calib. Due Date:	5	
***	7. Electronic Dosimeter                      Calib. Due Date:	10	

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

\*\*\* Alarm Setpoints: Dose - 4.5R; Dose Rate 10R/hr.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 2**  
**UNIT 2 CONTROL ROOM EMERGENCY KIT**  
(Sheet 2 of 4)

NOTE

Inspect all batteries during January and July inventories.

DRESS-OUT SUPPLIES	Minimum Quantity	As** Found
1. Coveralls	10	
2. Cloth Hood	10	
3. Cotton Liners (pr.)	10	
4. Rubber Gloves (pr.)	10	
5. Surgical Gloves (pr.)	10	
6. Rubber Shoe Covers (pr.)	10	
7. Plastic Booties (pr.)	10	
8. T-Cuts (pr.)	10	
9. Whirl-Pack	50	
10. Tape (2" roll)	3	

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 2**  
**UNIT 2 CONTROL ROOM EMERGENCY KIT**  
(Sheet 3 of 4)

NOTE

Inspect all batteries during January and July inventories.

OTHER EQUIPMENT	Minimum Quantity	As** Found
1. SCBA	5	
2. Air Sampler Model No.:      Serial No.:      Calib. Due Date:	1	
3. Silver Zeolite Cartridges      Exp. Date:	5	
4. Particulate Filters	6	
5. Whirl-Packs (labeled Air Sample Data)	6	
6. Full-Face Respirator (perform visual inspection, update card)	8	
7. Charcoal Canister      Exp. Date:	16	
8. Dosimeter Charger	1	
9. Contamination Smears and Envelopes/Folders	500	
10. Radiation Barrier Tape/Rope/Ribbon	N/A	
11. Radiation Sign and Assorted Inserts	5	
12. Step-off Pads	10	
13. Poly Bags (yellow)	10	
14. Extension Cord (HD)	N/A	
15. Extension Cord Adapter - White	3	
16. Extension Cord Adapter - Red	3	
17. Plastic Rainsuits	10	
18. Batteries - complete set of replacement batteries, both type and number, available for all equipment requiring batteries; check shelf life	N/A	

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 2**  
**UNIT 2 CONTROL ROOM EMERGENCY KIT**  
(Sheet 4 of 4)

NOTE

Inspect all batteries during January and July inventories.

DOCUMENTS, PROCEDURES, LOGS	Avail.	Unavail.
1. PSL Emergency Plan (check for current revision)		
2. EIPs (full set) (check for current revisions)		
3. Emergency Response Directory (check for current revision)		
4. HP-200 Series (full set) (check for current revisions)		
5. HP-206: Attachments 1, 2, 3 and Forms HP-206.1 and HP-206.2 (10 copies each) (check for current revision)		
6. Radiation Exposure Summary Report		
7. Control Room Rad Survey Maps (10 copies)		

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

Remarks: \_\_\_\_\_

Inventoried by: \_\_\_\_\_ Reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_ Date: \_\_\_\_\_

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 3**  
**OPERATIONAL SUPPORT CENTER EMERGENCY KIT**  
(Sheet 1 of 4)

**NOTE**

Inspect all batteries during January and July inventories.

	INSTRUMENTS	Pass	Fail
*	1. Portable Dose Rate Instrument ( $\geq 5$ R/hr)		
	Model No.:                      Serial No.:                      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
*	2. Portable Dose Rate Instrument ( $\geq 5$ R/hr)		
	Model No.:                      Serial No.:                      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
*	3. Portable Dose Rate Instrument ( $\geq 5$ R/hr)		
	Model No.:                      Serial No.:                      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
*	4. Portable Count Rate (Frisker) Instrument		
	Model No.:                      Serial No.:                      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
*	5. Portable Count Rate (Frisker) Instrument		
	Model No.:                      Serial No.:                      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
*	6. Portable Count Rate (Frisker) Instrument		
	Model No.:                      Serial No.:                      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
*	7. Portable Count Rate (Frisker) Instrument		
	Model No.:                      Serial No.:                      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
*	8. Dual Channel Analyzer		
	Model No.:                      Serial No.:                      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
*	9. Scaler and Detector		
	Model No.:                      Serial No.:                      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 3**  
**OPERATIONAL SUPPORT CENTER EMERGENCY KIT**  
(Sheet 2 of 4)

NOTE

Inspect all batteries during January and July inventories.

DOSIMETRY			Minimum Quantity	As** Found
*	1. TLD, Whole Body	Semi-annual:	46	
*	2. TLD, Finger Ring	Semi-annual:	22	
*	3. TLD, Multibadge	Semi-annual:	50	
*	4. DRD, 0-500 mR	Calib. Due Date:	40	
*	5. DRD, 0-5R	Calib. Due Date:	20	
*	6. DRD, 0-100R	Calib. Due Date:	10	
<b>DRESS-OUT SUPPLIES</b>				
	1. Coveralls		50	
	2. Cloth Hood		50	
	3. Cotton Liners (pr.)		50	
	4. Rubber Gloves (pr.)		50	
	5. Surgical Gloves (pr.)		50	
	6. Rubber Shoe Covers (pr.)		50	
	7. Plastic Booties (pr.)		50	
	8. T-Cuts (pr.)		50	
	9. Whirl-Pack		100	
	10. Tape (2" roll)		10	
1/2	11. Shaving Cream (can)		1	
1/2	12. Disposable Razors		6	
<b>OTHER EQUIPMENT</b>				
*	1. SCBA		2	
*	2. Air Sampler Model No.:	Serial No.:	Calib. Due Date:	1
	3. Silver Zeolite Cartridges	Exp. Date:		20
	4. Particulate Filters			20
	5. Whirl-Packs (labeled Air Sample Data)			20
	6. Full-Face Respirator (perform visual inspection, update card)			12
	7. Charcoal Canister	Exp. Date:		24
	8. Dosimeter Charger (electric)			1

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 3**  
**OPERATIONAL SUPPORT CENTER EMERGENCY KIT**  
(Sheet 3 of 4)

NOTE

Inspect all batteries during January and July inventories.

OTHER EQUIPMENT (continued)	Minimum Quantity	As** Found
9. Dosimeter Charger (battery)	2	
10. Contamination Smears and Envelopes/Folders	1500	
11. Radiation Barrier Tape/Rope/Ribbon	N/A	
12. Radiation Sign and Assorted Inserts	20	
13. Step-off Pads	20	
14. Poly Bags (yellow)	50	
15. Portable Fluorescent Lights	3	
16. Flashlights	24	
17. Rope (manila)	N/A	
18. Insect Repellent (spray can)	10	
19. Decontamination Agent	1	
20. Bull Horn	1	
21. Plastic Rainsuits	50	
22. Clipboards (regular)	5	
23. Lined Tablets	10	
24. Note Pads	10	
25. Felt-Tip Pens (black)	24	
26. Ink Pens (black)	24	
27. Pencils	24	
28. Scissors	3	
29. Calculator	1	
30. Stapler with staples	1	
31. Bolt Cutters	1	
32. Batteries - Complete set of replacement batteries, both type and number, available for all equipment requiring batteries; check shelf life.	N/A	

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 3**  
**OPERATIONAL SUPPORT CENTER EMERGENCY KIT**  
(Sheet 4 of 4)

NOTE

Inspect all batteries during January and July inventories.

DOCUMENTS, PROCEDURES, LOGS		Avail.	Unavail.
1.	EIPs (full set) (check for current revision)		
2.	Emergency Response Directory (5 copies) (check for current revision)		
3.	HPP-70 (check for current revision)		
4.	HP-90 (check for current revision)		
5.	HP-200 (full set) (check for current revision)		
6.	COP-06.06 (check for current revision)		
7.	COP-06.11, "Establishing Remote Laboratory for Analyses of Accident Samples" (check for current revision)		
8.	Radiation Exposure Summary Report		
9.	HP Blank Survey Forms (Unit 1 and Unit 2)		
10.	Field Monitoring Map		
11.	Assembly Area Kit		
	Emergency Response Directory (1 copy) (check for current revision)		
	HP-207 (check for current revision)		
	HP-208 (check for current revision)		
12.	Decon Log Notebook including:		
	Form HP207.1 (25 copies) (check for current revision)		
	Form HPP-70.1 (25 copies) (check for current revision)		
<b>COMMUNICATIONS TEST</b>		<b>Pass</b>	<b>Fail</b>
1.	Videolink Check		
	Perform check in accordance with Appendix B		

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

Remarks: \_\_\_\_\_

Inventoried by: \_\_\_\_\_ Reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_ Date: \_\_\_\_\_

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 4**  
**SITE ASSEMBLY STATION EMERGENCY KIT**  
(Sheet 1 of 3)

NOTE

Inspect all batteries during January and July inventories.

INSTRUMENTS	Pass	Fail
* 1. Portable Count Rate (Frisker) Instrument (Decon)		
Model No.:      Serial No.:      Calib. Due Date:		
Perform operability check in accordance with Appendix A		

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 4**  
**SITE ASSEMBLY STATION EMERGENCY KIT**  
(Sheet 2 of 3)

NOTE

Inspect all batteries during January and July inventories.

DRESS-OUT SUPPLIES	Minimum Quantity	As** Found
1. Coveralls	10	
2. Cloth Hood	10	
3. Cotton Liners (pr.)	10	
4. Rubber Gloves (pr.)	10	
5. Surgical Gloves (pr.)	10	
6. Rubber Shoe Covers (pr.)	10	
7. Plastic Booties (pr.)	10	
8. T-Cuts (pr.)	10	
9. Whirl-Pack	50	
10. Tape (2" roll)	3	
OTHER EQUIPMENT		
1. Paper PCs	10	
2. Radiation Barrier (Tape/Rope/Ribbon)	N/A	
3. Radiation Sign and Assorted Inserts	3	
4. Step-off Pads	10	
5. Poly Bags (yellow)	50	
6. 5 Gallon Jug of Water	1	
7. Waterless Hand Cleaner (can)	2	
8. Hand Rags	50	
9. Towels	6	
10. Shaving Cream (can)	1	
11. Disposable Razors	6	
12. First Aid Kit	1	

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 4**  
**SITE ASSEMBLY STATION EMERGENCY KIT**  
(Sheet 3 of 3)

NOTE  
Inspect all batteries during January and July inventories.

DOCUMENTS, PROCEDURES, LOGS	Avail.	Unavail.
1. Emergency Response Directory (check for current revision)		
2. HP-200 Series (full set) (check for current revision)		
3. Notebook		
4. Decon Log Clipboard with:		
Form HP 207.1 (25 copies) (check for current revision)		
5. Decon Log Clipboard with:		
Form HPP-70.1 (25 copies) (check for current revision)		
COMMUNICATIONS TEST	Pass	Fail
1. Wall Phone		
Perform communications test in accordance with Appendix B		

- \* Major Equipment
- \*\* Codes: P=Pass, F=Fail, R=See Remarks

Remarks: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Inventoried by: \_\_\_\_\_ Reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_ Date: \_\_\_\_\_



ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 5**  
**FIELD MONITORING TEAM EMERGENCY KIT**  
(Sheet 2 of 2)

**NOTE**  
Inspect all batteries during January and July inventories.

OTHER EQUIPMENT (continued)	Minimum Quantity	As** Found
13. Stopwatch	1	
14. Calculator	1	
15. Dosimeter Charger	1	
16. Tweezers	1	
17. Flashlight	1	
18. Batteries - Complete set of replacement batteries, both type and number, available for all equipment requiring batteries; check shelf life.	N/A	
DOCUMENTS, PROCEDURES, LOGS	Avail.	Unavail.
1. Emergency Response Directory (check for current revision)		
2. HP-202 (check for current revision)		
3. (Form) Table 1 of HP-202 (2 copies) (check for current revision)		
4. Form HP-202.1 (6 copies) (check for current revision)		
5. Field Monitoring Log		
6. Field Monitoring Maps		

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Inventoried by: \_\_\_\_\_ Reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_ Date: \_\_\_\_\_

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 6**  
**EMERGENCY OPERATIONS FACILITY EMERGENCY KIT**  
(Sheet 1 of 3)

NOTE

Inspect all batteries during January and July inventories.

INSTRUMENTS		Pass	Fail
*	1. Portable Dose Rate Instrument ( $\geq 5R/hr$ )		
	Model No.:      Serial No.:      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
*	2. Portable Count Rate (Frisker) Instrument		
	Model No.:      Serial No.:      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
*	3. Portable Count Rate (Frisker) Instrument		
	Model No.:      Serial No.:      Calib. Due Date:		
	Perform operability check in accordance with Appendix A		
DOSIMETRY		Minimum Quantity	As** Found
*	1. TLD, Whole Body    Semi-annual:	6	
*	2. DRD, 0-500 mR    Calib. Due Date:	10	
*	3. DRD, 0-5 R      Calib. Due Date:	5	
DRESS-OUT SUPPLIES			
	1. Coveralls	20	
	2. Cloth Hood	20	
	3. Cotton Liners (pr.)	20	
	4. Rubber Gloves (pr.)	20	
	5. Surgical Gloves (pr.)	20	
	6. Rubber Shoe Covers (pr.)	20	
	7. Plastic Booties (pr.)	20	
	8. T-Cuts (pr.)	20	
	9. Whirl-Pack	50	
	10. Tape (2" roll)	5	

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 6**  
**EMERGENCY OPERATIONS FACILITY EMERGENCY KIT**  
(Sheet 2 of 3)

NOTE

Inspect all batteries during January and July inventories.

OTHER EQUIPMENT		Minimum Quantity	As** Found
1.	Full Face Respirator (perform visual inspection, update card)	6	
2.	Charcoal Canister    Exp. Date:	12	
3.	Dosimeter Charger (electric)	1	
4.	Dosimeter Charger (battery)	1	
5.	Silver Zeolite Cartridges    Exp. Date:	50	
6.	Contamination Smears and Envelopes/Folders	500	
7.	Radiation Barrier (Tape/Rope/Ribbon)	N/A	
8.	Radiation Sign and Assorted Inserts	10	
9.	Step-off Pads	10	
10.	Poly Bags (yellow)	10	
11.	Plastic Rainsuits	20	
12.	Batteries - Complete set of replacement batteries, both type and number, available for all equipment requiring batteries; check shelf life.	N/A	
<b>DOCUMENTS, PROCEDURES, LOGS</b>		Avail.	Unavail.
1.	PSL Emergency Plan (check for current revision)		
2.	EIPs (full set) (check for current revision)		
3.	Emergency Response Directory (check for current revision)		
4.	Florida Power & Light Company St. Lucie Plant Recovery Plan		
5.	HP-90 (check for current revision)		
6.	HP-200 Series (full set) (check for current revision)		
7.	COP-06.06 (check for current revision)		
8.	COP-06.11, "Establishing Remote Laboratory for Analyses of Accident Samples" (check for current revision)		
<b>COMMUNICATIONS TEST</b>		Pass	Fail
1.	NRC Emergency Notification System (ENS)		
	Perform communications test in accordance with Appendix B		
2.	NRC Health Physics Network (HPN)		
	Perform communications test in accordance with Appendix B		
3.	NRC Reactor Safety Counterpart Link (RSCL)		
	Perform communications test in accordance with Appendix B.		

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 6**  
**EMERGENCY OPERATIONS FACILITY EMERGENCY KIT**  
(Sheet 3 of 3)

NOTE

Inspect all batteries during January and July inventories.

COMMUNICATIONS TEST - EMERGENCY OPERATIONS FACILITY (EOF) (continued)	Pass	Fail
4. NRC Protective Measures Counterpart Link (PMCL) Perform communications test in accordance with Appendix B.		
5. NRC Management Counterpart Link (MCL) Perform communications test in accordance with Appendix B.		
6. NRC Local Area Network (LAN) Perform communications test in accordance with Appendix B		
7. Local Government Radio (LGR) Channel 2 (39.18 MHz) Perform communications test in accordance with Appendix B; <input type="checkbox"/> Unit 1, <input type="checkbox"/> Unit 2, <input type="checkbox"/> TSC (All 3 ok to pass)		
8. Local Government Radio (LGR) Channel 1 (39.10 MHz) Perform communications test in accordance with Appendix B; <input type="checkbox"/> Unit 1, <input type="checkbox"/> Unit 2, <input type="checkbox"/> TSC (All 3 ok to pass)		
9. Spectra Radio, HP Offsite Channel Perform communications test in accordance with Appendix B		
10. State Warning Point (SWP) Hot Ring Down Phone (HRD) Perform communications test in accordance with Appendix B		
11. Videolink check Perform check in accordance with Appendix B		
12. Test fax machines in rooms 102, 108 and 130 (send fax to EP at ext. 7514). Send using form similar to Appendix C.		
13. Test copy machines in rooms 102 and 131. Run copy using form similar to Appendix D.		

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

Remarks: \_\_\_\_\_

Inventoried by: \_\_\_\_\_ Reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_ Date: \_\_\_\_\_

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 7**  
**HOSPITAL EMERGENCY KIT**  
(Sheet 1 of 2)

NOTE

Inspect all batteries during January and July inventories.

INSTRUMENTS			Pass	Fail
*	1.	Portable Dose Rate Instrument ( $\geq 5R/hr$ )		
		Model No.:                  Serial No.:                  Calib. Due Date:		
		Perform operability check in accordance with Appendix A		
*	2.	Portable Count Rate (Frisker) Instrument		
		Model No.:                  Serial No.:                  Calib. Due Date:		
		Perform operability check in accordance with Appendix A		
*	3.	Portable Count Rate (Frisker) Instrument		
		Model No.:                  Serial No.:                  Calib. Due Date:		
		Perform operability check in accordance with Appendix A		
DOSIMETRY			Minimum Quantity	As** Found
*	1.	TLD, Whole Body      Semi-annual:	12	
	2.	DRD, 0-20 R                                  Calib. Due Date:	5	
*	3.	DRD, 0-500 mR                                  Calib. Due Date:	12	
OTHER EQUIPMENT				
	1.	Dosimeter Charger	1	
	2.	Contamination Smears and Envelopes/Folders	500	
	3.	Radiation Barrier Tape/Rope/Ribbon	N/A	
	4.	Radiation Sign and Assorted Inserts	5	
	5.	Step-off Pads	10	
	6.	Poly Bags (yellow)	20	
	7.	Herculite (may be precut)	N/A	
	8.	Decontamination Table and Accessories	1	
	9.	Tape (2" roll)	5	
	10.	Radioactive Material Tags	25	

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**ATTACHMENT 7**  
**HOSPITAL EMERGENCY KIT**  
(Sheet 2 of 2)

NOTE

Inspect all batteries during January and July inventories.

OTHER EQUIPMENT (continued)	Minimum Quantity	As** Found
11. Lined Tablets	2	
12. Note Pads	2	
13. Ink Pens (black)	12	
14. Batteries - Complete set of replacement batteries, both type and number, available for all equipment requiring batteries; check shelf life.	N/A	
DOCUMENTS, PROCEDURES, LOGS	Avail.	Unavail.
1. Emergency Response Directory (check for current revision)		
2. HPP-70 (check for current revision)		
3. HPP-101 (check for current revision)		
4. HP-207 (check for current revision)		
5. HP-208 (check for current revision)		
6. Form HPP-101.1 (5 copies) (check for current revision)		
7. Form HPP-70.1 (5 copies) (check for current revision)		

\* Major Equipment

\*\* Codes: P=Pass, F=Fail, R=See Remarks

Remarks: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Inventoried by: \_\_\_\_\_ Reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_ Date: \_\_\_\_\_

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX A**  
**OPERABILITY INSTRUCTIONS**  
(Sheet 1 of 5)

1. Portable Dose Rate Instrument - Check calibration sticker, battery test and response to supplied check source.

**NOTE**

Kit check sources should not be stored near the kit TLDs.

2. Portable Count Rate Instrument - Check calibration sticker, battery test (unplug line cord) and response to supplied check source.
3. 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.
- A layout of the Ludlum Model 2218 is provided in Figure 1 to this Appendix.

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

- 3.1 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 therefore should be replaced with an instrument capable of passing this operability check.

1. Turn the POWER knob to "BAT".
2. Unplug the AC line cord.
3. Depress the BAT testbutton.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX A**  
**OPERABILITY INSTRUCTIONS**  
(Sheet 2 of 5)

3. (continued)

3.1 (continued)

4. Observe the condition below the RATE SCALE.
5. 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\_\_\_\_".
6. If the battery condition is acceptable, then continue with the steps below.

3.2 Set the STABILIZER toggle switch to OFF.

NOTE

Steps 3.3 through 3.15.4 are initially performed on Channel 1.

- 3.3 Ch1 (Ch2), set the ADD-OFF-SUBTRACT knob to ADD.
- 3.4 Ch2 (Ch1), set the ADD-OFF-SUBTRACT knob to OFF
- 3.5 Ch1 and Ch2, set the ON-BYPASS toggle switch to BYPASS.
- 3.6 Ch1 (Ch2), set the WINDOW and the THRESHOLD dials IAW (in accordance with) settings on the side of the 2218 cabinet.
- 3.7 Set the unused Channel's WINDOW and THRESHOLD dials to 10.0.
- 3.8 Ch1 (Ch2), set the IN-OUT toggle switch to IN.
- 3.9 Ch2 (Ch1), set the IN-OUT toggle switch to OUT.
- 3.10 Set the MINUTES knob to X1.
- 3.11 Set the LIVE-CLOCK toggle switch to LIVE.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX A**  
**OPERABILITY INSTRUCTIONS**  
(Sheet 3 of 5)

3. (continued)

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

3.13 Set the Ch1-Ch2-Scaler knob to SCALER.

3.14 Set the MINUTES thumbwheel to 01.

3.15 Perform a source check as follows:

1. Place the Ba-133 check source in the shield under the detector.
2. Depress the COUNT-RESET button to start counting.
3. When counting stops, compare the displayed counts with the acceptance range that is located on the side of the instrument.
4. If the displayed counts are within the acceptance range then go to step 3.17. If the displayed counts are not within the acceptance range then go to step 3.16.

3.16 High voltage (HV) adjustments are performed as follows:

1. Set the MINUTES knob to EXT.
2. Place the Ba-133 check source in the shield under the detector.
3. Depress the COUNT-RESET button to start counting.
4. Observe the COUNTS/MINUTE (Count Rate Meter) scale while making small adjustments in voltage to obtain the **maximum** count rate achievable.
5. Increase or decrease the voltage with the HV (High Voltage) dial.
6. Set the MINUTES knob to X1.
7. Depress the COUNT-RESET button to start counting.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX A**  
**OPERABILITY INSTRUCTIONS**  
(Sheet 4 of 5)

3. (continued)

3.16 (continued)

8. When counting stops, compare the displayed counts with the acceptance range that is located on the side of the instrument.
9. If the displayed counts are within the acceptance range then go to step 3.17. If the displayed counts are not within the acceptance range then repeat steps 3.3 through 3.15.4 using channel 2.

3.17 If the instrument successfully completed the operational response check, record the results on the appropriate Attachment.

3.18 If the instrument did not successfully complete the operational check, using channel 2:

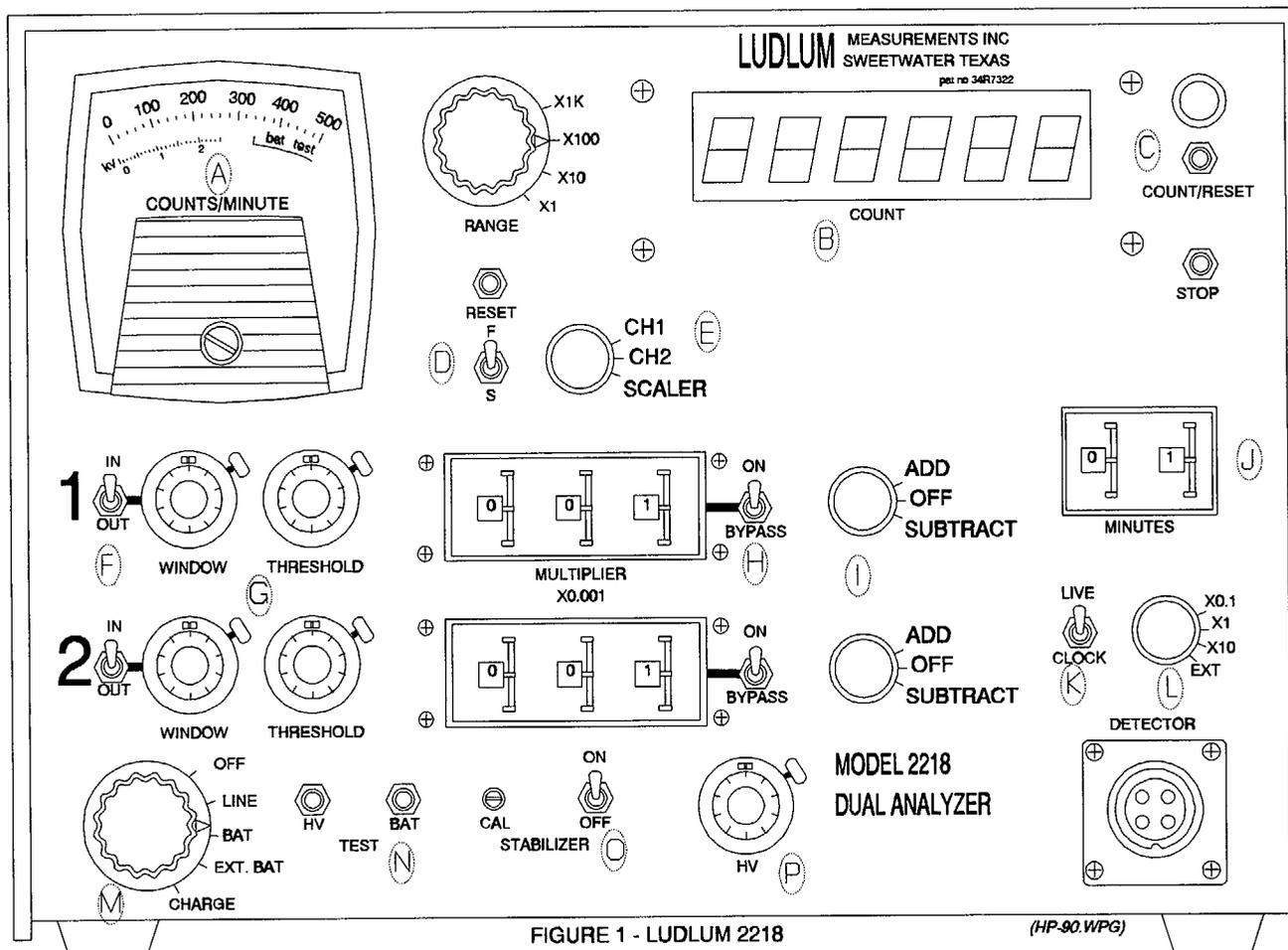
1. Tag the instrument OUT OF SERVICE, give the reason.
2. Record the results in the appropriate Attachment.
3. Give the reason for failure in the Remarks section.

3.19 If the instrument successfully completed the operational response check using channel 2, record the results on the appropriate Attachment and label the instrument "use channel 2".

3.20 Turn the power knob to CHARGE.

4. Scaler and Detector - check the calibration sticker and response to supplied check source. This is a response check only; use the supplied kit check source used for dose rate instruments.

**APPENDIX A**  
**OPERABILITY INSTRUCTIONS**  
(Sheet 5 of 5)



Battery Check	HV Adjustment	Count Verification	Operational Check (Ch1)
M - set to "BAT"	L - set to "EXT"	L - set to "X1"	O - toggle to "OFF"
N - depress testbutton 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"
			C - depress button to start count

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX B**  
**INSTRUCTIONS FOR TESTING EMERGENCY COMMUNICATIONS EQUIPMENT**  
(Sheet 1 of 15)

I. Control Rooms

- A. Unit 1 Control Room emergency communications equipment is tested in accordance with plant Operating Procedure 1-0010125, "Schedule of Periodic Tests, Checks and Calibrations."
- B. Unit 2 Control Room emergency communications equipment is tested in accordance with plant Operating Procedure 2-0010125, "Schedule of Periodic Tests, Checks and Calibrations."

II. Technical Support Center (TSC)

- A. Technical Support Center emergency communications equipment is tested in accordance with EPIP-13, "Maintaining Emergency Preparedness - Emergency Exercises, Drills, Tests and Evaluations".

III. Operational Support Center (OSC)

- A. "Videolink" - the "Videolink" is a closed circuit audio/visual communications link originating in the TSC with feeds to the OSC and the Emergency Operations Facility.

1. Instructions for Testing

- a. Contact someone to go to the TSC to assist with the test of the "Videolink", if not previously arranged.
- b. Turn on the television sets in both Rooms 2200 and 2300.
- c. Set the channel selector to channel 9 and adjust volume.
- d. Request the person in the TSC to provide a test broadcast.
- e. Operability is verified if both the video picture and audio output are received on the television sets in both rooms. The picture must be clear and the audio free from static.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX B**  
**INSTRUCTIONS FOR TESTING EMERGENCY COMMUNICATIONS EQUIPMENT**  
(Sheet 2 of 15)

III. (continued)

A. (continued)

1. (continued)

- f. Record operability status on the inventory form (Attachment 3).
- g. If the "Videolink" is inoperable (one or both television sets), notify Emergency Planning.
- h. Following completion of the tests, turn off the television sets in rooms 2200 and 2300.

IV. Emergency Operations Facility (EOF)

Testing the NRC Emergency Telecommunications System (ETS).

/R38

A. Emergency Notification System (ENS)

- 1. Phone number: (700) 821-0005
- 2. 3 extensions
  - a. Room 101, NRC Table
  - b. Room 101, Recovery Manager Table
  - c. Room 114

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX B**  
**INSTRUCTIONS FOR TESTING EMERGENCY COMMUNICATIONS EQUIPMENT**  
(Sheet 3 of 15)

## IV. (continued)

## A. (continued)

## 3. Test

- a. Check all three phones for dial tone by lifting the handset of the telephone and listening for a dial tone.
- b. Using one of the phone extensions, call the NRC Operation Center (NRCOC) by lifting the handset and dialing the first number listed on the sticker located on the telephone cradle. It is necessary to dial a "1" first then the area code followed by the number. If the main number is busy, dial one of the alternate numbers. /R38
- c. After the NRCOC Duty Officer answers, inform him as follows: "This is the St. Lucie Emergency Operations Facility. I am conducting a check of the ENS, how do you receive me?" Ask the NRCOC Duty Officer if he wishes to call back, if so give him the telephone number and await the call.
- d. The test is passed if (1) all phones have dial tone, (2) the link is operable, and (3) the NRCOC is successfully contacted.
- e. Record the test result on the inventory form (Attachment 6).
- f. If the test is a failure, see information under Trouble Notification.

## B. Health Physics Network (HPN)

1. Phone number: (700) 821-0003
2. 3 extensions
  - a. Room 101, NRC Table
  - b. Room 103 (2)
3. Go to step F, Test Procedure

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX B**  
**INSTRUCTIONS FOR TESTING EMERGENCY COMMUNICATIONS EQUIPMENT**  
(Sheet 4 of 15)

IV. (continued)

C. Reactor Safety Counterpart Link (RSCL)

1. Phone number: (700) 821-0008
2. 2 extensions
  - a. Room 101, NRC Table
  - b. Room 114
3. Go to step F, Test Procedure

D. Protective Measures Counterpart Link (PMCL)

1. Phone number: (700) 821-0006
2. 2 extensions
  - a. Room 101, NRC Table
  - b. Room 114
3. Go to step F, Test Procedure.

E. Management Counterpart Link (MCL)

1. Phone number: (700) 821-0004
2. 2 extensions
  - a. Room 101, NRC Table
  - b. Room 114
3. Go to step F, Test Procedure

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX B**  
**INSTRUCTIONS FOR TESTING EMERGENCY COMMUNICATIONS EQUIPMENT**  
(Sheet 5 of 15)

## IV. (continued)

## F. Test Procedure for HPN, RSCL, PMCL and MCL.

## 1. For each communication link, do the following:

- a. Check all extensions for dial tone by lifting the handset of the telephone and listening for a dial tone.
- b. Check link operability by using the phones on the NRC Table in Room 101. Each link must be able to call-out and receive a call to pass. Use the following call scheme:

HPN: Dial 700-821-0008

RSCL: Dial 700-821-0006

PMCL: Dial 700-821-0004

MCL: Dial 700-821-0003

- c. The test is passed if (1) all phones have dial tone and (2) the link is operable.
- d. Record the test result on the inventory form (Attachment 6) for each communication link.
- e. If the test is a failure, see information under Trouble Notification.

## G. Local Area Network (LAN)

1. Phone number: (700) 821-0007.
2. 1 extension
  - a. Room 114
3. Test
  - a. Check the telephone line by plugging in a telephone, lifting the handset and listening for a dial tone.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX B**  
**INSTRUCTIONS FOR TESTING EMERGENCY COMMUNICATIONS EQUIPMENT**  
(Sheet 6 of 15)

IV. (continued)

H. Trouble Notification

1. If any aspect of the Emergency Telecommunications System is inoperable notify the NRC Operations Center in Rockville, Maryland by using a commercial telephone and dialing one of the following numbers:

1-(301) 951-0550

1-(301) 816-5100

2. Provide the following information (per IN 86-97):

a. Name of contact - Donna Calabrese or Rick Walker

b. Phone number of contact - Donna Calabrese  
(561) 467-7185

Rick Walker  
(561) 467-7170

c. Location of contact - FPL/PSL  
6501 S. Ocean  
Jensen Beach, Florida  
34957

d. Any other information that would expedite repair, if known or as requested.

3. Notify Donna Calabrese or Rick Walker.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX B**  
**INSTRUCTIONS FOR TESTING EMERGENCY COMMUNICATIONS EQUIPMENT**  
(Sheet 7 of 15)

IV. (continued)

- I. The Local Government Radio (LGR) has two low band radio frequencies utilized by St. Lucie County, Martin County, the St. Lucie Plant Control Rooms, the Technical Support Center and the Emergency Operations Facility. This is a backup to the State Hot Ring Down Phone Circuit.

There are two Motorola Command Series radios, one set to the primary channel, F2 (39.180 MHz, State channel 1) and the other set to the secondary channel, F1 (39.100 MHz, State channel 2). The test includes testing both channels with the Unit 1 Control Room, the Unit 2 Control Room, and the Technical Support Center.

**CAUTION**

To safeguard against potential damage resulting from lightning striking the EOF, power cords for the LGR and HP Off-Site Channel Radios are left disconnected when not in use. The phone cables to each radio are NOT to be disconnected.

1. Powering Up the Radio:
  - a. Plug the power cord from each radio unit into the wall outlets behind the table. The F2 light will illuminate.
  - b. Ensure the phone cable from each radio is plugged into one of the 3 phone jacks on the wall behind the table. All the jacks are wired for all 3 radios (LGR F1, LGR F2, and Department of Health (DOH)). (The DOH radio is NOT included in this test).

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX B**  
**INSTRUCTIONS FOR TESTING EMERGENCY COMMUNICATIONS EQUIPMENT**  
(Sheet 8 of 15)

IV. (continued)

I. (continued)

**NOTE**

Prior to commencing the testing with the Control Rooms, contact someone at the plant to go to the TSC to assist with testing of the TSC radios.

2. Instructions for Testing:

Control Rooms

- a. Call one of the Plant St. Lucie Control Rooms and ask them to standby for testing the LGR.
- b. Begin by testing the radio which is set to channel F2, the channel normally monitored by the Control Rooms.
- c. The radio may be operated either by depressing the "transmit" button on the console or by removing the handset and depressing the "push-to-talk" bar in the handset. The "xmit" light is lit during transmission. Transmit the following: "St. Lucie Unit 1 or 2 (whichever you arranged to test with), this is St. Lucie EOF, come in please, over." Following acknowledgement from the Control Room, continue with: "St. Lucie Plant, this is the St. Lucie EOF conducting a communications test, how do you read, over?" If the Control Room confirms clear transmission and you can confirm clear reception of the response, then have the radio switched to channel F1, following termination of the message, and standby for a test. End the transmission with: "This is St. Lucie EOF, out." If transmission is unsuccessful, call the Control Room and have the radio switched to channel F1. Proceed to the next step.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX B**  
**INSTRUCTIONS FOR TESTING EMERGENCY COMMUNICATIONS EQUIPMENT**  
(Sheet 9 of 15)

IV. (continued)

I. (continued)

2. (continued)

- d. Now test the radio which is set to channel F1. Transmit the following: "St. Lucie Plant, this is St. Lucie EOF, come in please, over." Following acknowledgement from the Control Room, continue with: "St. Lucie Plant, this is the St. Lucie EOF conducting a communications test, how do you read, over?" If the Control Room confirms a clear transmission and you can confirm clear reception of the response, then end the transmission with: "This concludes this communications test, reset the radio to channel F2, this is St. Lucie EOF, KNGR 874 over and out." If transmission is unsuccessful, call the Control Room and have the radio reset to channel F2. Proceed to the next step.
- e. Record operability status on the inventory form (Attachment 6).
- f. If one or both channels of the system is/are inoperable, then notify Emergency Preparedness. /R38
- g. Repeat the test procedure in Steps c - f above with the other Control Room.

Technical Support Center

- a. Contact someone at the plant to go to the TSC to assist with the radio test, if not previously arranged.
- b. Begin by testing the radio which is set to channel F2, the channel the radio in the TSC is set on.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX B**  
**INSTRUCTIONS FOR TESTING EMERGENCY COMMUNICATIONS EQUIPMENT**  
(Sheet 10 of 15)

## IV. (continued)

## I. (continued)

## 2. (continued)

- c. Transmit the following: "St. Lucie TSC, this is St. Lucie EOF, come in please, over." Following acknowledgement from the TSC, continue with: "St. Lucie TSC, this is the St. Lucie EOF conducting a communications test, how do you read, over?" If the TSC confirms clear transmission and you can confirm clear reception of the response, then have the radio switched to channel F1 (by depressing the "F1/F2" button), following termination of the message, and standby for a test. End the transmission with: "This is St. Lucie EOF, out." If transmission is unsuccessful, call the TSC and have the radio switched to channel F1. Proceed to the next step.
- d. Now test the radio which is set to channel F1. Transmit the following: "St. Lucie TSC, this is St. Lucie EOF, come in please, over." Following acknowledgement from the TSC, continue with: "St. Lucie TSC, this is St. Lucie EOF conducting a communications test, how do you read, over?" If the TSC confirms a clear transmission and you can confirm clear reception of the response, then end the transmission with: "This concludes this communications test, reset the radio to channel F2, this is St. Lucie EOF KNGR 874 over and out." If transmission is unsuccessful, call the TSC and have the radio reset to channel F2. Proceed to the next step.
- e. Record operability status on the inventory form (Attachment 6).
- f. If one or both channels of the system is/are inoperable, then notify Emergency Preparedness. /R38

## 3. Powering Down the Radio: /R38

- a. Unplug both radios from the wall outlets.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX B**  
**INSTRUCTIONS FOR TESTING EMERGENCY COMMUNICATIONS EQUIPMENT**  
(Sheet 11 of 15)

## IV. (continued)

J. HP Off-site Channel is a unique 900 MHz channel (TX 939.9375 - RX 900.9375) for communications with the off-site Field Monitoring Teams. The radio is a Motorola Spectra which has been set up so that the HP Off-site Channel is the "home" channel, but it has also been programmed for other channels of the plant 900 MHz trunking system.

## 1. Powering Up the Radio:

- a. Plug the power cord into the wall outlet behind the table.
- b. Press the red button on the speaker box (Astron RS-12S) to the up position, button will illuminate.
- c. Depress the "pwr" button on the Spectra radio.

## 2. Instructions for Testing:

- a. Contact someone at the plant to go to the TSC to assist with the radio test, if not previously arranged.
- b. The home channel is "off-site," if this channel is not selected (on the LED), then depress the "sel" button until "off-site" shows in the display.
- c. Press the transmit side (with the lightning bolt) of the microphone base and announce: "St. Lucie TSC, this is the St. Lucie EOF, come in please, over." Following acknowledgement from the TSC, continue with: "St. Lucie TSC, this is the St. Lucie EOF conducting a communications test, how do you read?" If the TSC confirms clear transmission and you can confirm clear reception of the response, then end the transmission with: "This concludes this communications test, this is St. Lucie EOF, WMIF 540 over and out."
- d. Record operability status on the inventory form (Attachment 6).
- e. If the radio is inoperable, then notify Emergency Preparedness. /R38

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX B**  
**INSTRUCTIONS FOR TESTING EMERGENCY COMMUNICATIONS EQUIPMENT**  
(Sheet 12 of 15)

IV. (continued)

J. (continued)

3. Powering Down the Radio:

- a. Depress the "pwr" button on the Spectra radio.
- b. Press red button of the speaker box to the down position (light will extinguish).
- c. Unplug the power cord from the wall outlet.

K. The State Warning Point (SWP) Hot Ring Down (HRD) circuit is a dedicated phone system linking the State agencies, St. Lucie County and Martin County with the Plant Control Rooms, Technical Support Center and the Emergency Operations Facility.

1. Instructions for Testing.

- a. Go to the Division of Emergency Management's office Room 108, in the EOF and locate the phone labeled Hot Ring Down (HRD).
- b. Pick up the handset and dial the State Warning Point (SWP) in Tallahassee. This is done by dialing 100. The State Warning Point Duty Officer will acknowledge by saying, "This is State Warning Point, go ahead." You in turn will announce "This is St. Lucie EOF, I am conducting a communications check, how do you receive me? The State will acknowledge. Request the State Warning Point to call you back on Station number 123.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX B**  
**INSTRUCTIONS FOR TESTING EMERGENCY COMMUNICATIONS EQUIPMENT**  
(Sheet 13 of 15)

IV. (continued)

K. (continued)

1. (continued)

c. Self test procedure for additional extensions.

(1) Conduct a self test on 2 extensions.

A. Extension 120 in the conference room

B. Extensions 122 and 124 in the bull pen

(2) To perform the self test, adjust the volume control to the mid-range position. Lift the handset and press the push to talk bar while speaking into the handset mouthpiece. You should hear yourself in the handset earpiece (this is called sidetone). Now locate the black button on the rear of the telephone next to the power connector. Activate the test mode by holding this button down while simultaneously depressing the push to talk bar and speaking into the handset mouthpiece. Voice should now be heard in the speaker.

Satisfactory completion of the self test is determined when the presence of sidetone is detected while pressing the push to talk bar and speaking into the handset, and when a loopback of the speaker's voice is heard in the loudspeaker while pressing the test switch located on the rear of the terminal. The self test is a complete audio loopback of the terminal's audio circuits up to, but not including, the line matching transformers. As such, this test is a good method to evaluate instrument performance.

d. Record operability status on the inventory form (Attachment 6).

e. If the system is inoperable, notify Emergency Preparedness.

/R38

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX B**  
**INSTRUCTIONS FOR TESTING EMERGENCY COMMUNICATIONS EQUIPMENT**  
(Sheet 14 of 15)

IV. (continued)

L. "Videolink" - the "Videolink" is a closed circuit audio/visual communications link originating in the TSC with feeds to the OSC and the EOF.

1. Instructions for Testing

- a. Contact someone at the plant to go to the TSC to assist with the test of the "Videolink", if not previously arranged.
- b. Obtain key #14 from the keybox in room 107. The key to the keybox is located on the wall next to the box.
- c. Use key #14 to unlock room 132.
- d. Turn on the master video switch located in the rack mount cabinet.
- e. In the "Bullpen", room 101, turn on the two television sets using the remote controls (one for each television set) on the Recovery Manager's table.
- f. Set the channel selector to channel 7 and adjust volume.
- g. Request the person in the TSC to provide a test broadcast.
- h. Operability is verified if both the video picture and the audio output are received on both television sets. The picture must be clear and the audio free from static.
- i. Record operability status on the inventory form (Attachment 6).
- j. If the "Videolink" is inoperable (one or both television sets), notify Emergency Planning.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX B**  
**INSTRUCTIONS FOR TESTING EMERGENCY COMMUNICATIONS EQUIPMENT**  
(Sheet 15 of 15)

IV. (continued)

L. (continued)

1. (continued)

k. Following the completion of the test:

1. Turn off both television sets in room 101.
2. Turn off the master video switch in room 132.
3. Lock room 132.
4. Return key #14 to the keybox.

V. Site Assembly Station

A. Conduct functional check of the Site Assembly Station (SAS) telephone located on the west wall.

1. Place a local call and request a call back to ensure that the phone works properly.
2. Record operability status on the inventory form (Attachment 4).
3. If the phone is inoperable, notify Emergency Planning.

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX C**  
**FAX TEST FOR EOF MACHINES**

TO: EP DEPT

467-7500

/R38

THIS IS A TEST FROM: \_\_\_\_\_

DATE: \_\_\_/\_\_\_/\_\_\_

ST. LUCIE PLANT  
HEALTH PHYSICS OPERATING PROCEDURE NO. HP-90, REVISION 38  
EMERGENCY EQUIPMENT

**APPENDIX D**  
**COPIER TEST FOR EOF MACHINES**

TEST DATE \_\_\_\_/\_\_\_\_/\_\_\_\_

TEST PERFORMED BY \_\_\_\_\_



# ST. LUCIE PLANT HEALTH PHYSICS PROCEDURE

SAFETY RELATED

Procedure No.  
**HP-200**

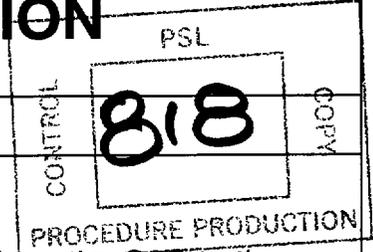
Current Rev. No.  
**17**

Effective Date:  
**11/19/01**

Title:

## HEALTH PHYSICS EMERGENCY ORGANIZATION

Responsible Department: **HEALTH PHYSICS**



### Revision Summary

**Revision 17** - Changed to reflect the moving of the emergency kits from the SAS to the SSB at the OSC area. (Don Reisinger, 11/12/01)

**Revision 16** - Added step to TSC HP Supervisor checklist to assist EC with radiological conditions and evaluations of PARs. Made editorial/administrative changes. (J.R. Walker, 03/22/01)

**Revision 15** - Deleted low vol air sample from OSC checklist and included checklist for HPN Communicator. (Don Reisinger, 11/30/99)

**Revision 14** - Clarified radiation protection technologist and health physics technician positions. Added EAL triggers to TSCHPS Checklist, OSC relocation threshold dose rate information to HPOSC Checklist and editorial changes. (J. R. Walker, 3/2/99)

Revision	FRG Review Date	Approved By	Approval Date	
0	02/01/82	J. H. Barrow (for) Plant General Manager	02/04/82	S__OPS DATE _____ DOCT <u>PROCEDURE</u> DOCN <u>HP-200</u> SYS _____ COMP <u>COMPLETED</u> ITM <u>17</u>
17	11/12/01	R. G. West Plant General Manager	11/12/01	
		N/A Designated Approver		
		N/A Designated Approver (Minor Correction)		

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

1.0 TITLE:

HEALTH PHYSICS EMERGENCY ORGANIZATION

2.0 REVIEW AND APPROVAL:

See cover page

3.0 PURPOSE:

This procedure defines areas of responsibility and provides general guidelines for action to be taken by Health Physics Department personnel upon implementation of the St. Lucie Plant Radiological Emergency Plan (E-Plan). It also references those Health Physics (HP) procedures necessary to carry out specific HP activities during a declared radiological emergency (Alert, Site Area Emergency and General Emergency).

4.0 PRECAUTIONS AND LIMITATIONS:

- 4.1 The Health Physics Department is responsible for protecting all personnel from excessive radiological exposures during accident conditions. In order to effectively carry out this responsibility, it is necessary that all HP personnel quickly man their emergency stations and assemble and check their equipment and await directions from the Technical Support Center Health Physics Supervisor (TschPS) or his designee.
- 4.2 The TschPS is responsible for the procedures to be implemented and when implementation is to be effected.
- 4.3 Complete all procedural steps if applicable or indicate as non-applicable by writing N/A in the provided blank.
- 4.4 When Health Physics normal operating procedures and emergency procedures differ, the emergency procedures take precedence.
- 4.5 Delegation of duties and watch reliefs shall be authorized only by the TschPS or his designee with approval of the Emergency Coordinator.
- 4.6 It is the responsibility of all personnel to limit their own exposure and to assist others in limiting their exposures.

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

5.0 RELATED SYSTEM STATUS:

None

6.0 REFERENCES:

- 6.1 St. Lucie Plant Radiological Emergency Plan (E-Plan)
- 6.2 E-Plan Implementing Procedures (EPIP 00-13)
- 6.3 HP-2, "FP&L Health Physics Manual"
- 6.4 NRC I&E Information Notice No. 86-97: Emergency Communications System
- 6.5 HP-201, "Emergency Personnel Exposure Control"
- 6.6 HP-202, "Environmental Monitoring During Emergencies"
- 6.7 HP-203, "Personnel Access Control During Emergencies"
- 6.8 HP-204, "In-Plant Radiation and Contamination Surveys During Emergencies"
- 6.9 HP-205, "Emergency In-Plant Air Sampling"
- 6.10 HP-206, "Analysis of Emergency In-Plant Air Samples"
- 6.11 HP-207, "Monitoring Evacuated Personnel During Emergencies"
- 6.12 HP-208, "Personnel Decontamination During Emergencies"
- ¶<sub>1</sub> 6.13 PMAI PM97-04-148, OSC Merlins

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

7.0 RECORDS REQUIRED:

7.1 Completed copies of the below listed documents shall be maintained in the plant files in accordance with QI-17-PSL-1, "Quality Assurance Records."

Forms similar to:

1. Form HP200.1, Technical Support Center Health Physics Supervisor Checklist
2. Form HP200.2, Health Physics OSC Supervisor (HPOSC) Checklist
3. Form HP200.3, HPN Communicator Checklist

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

8.0 INSTRUCTIONS:

8.1 Health Physics Emergency Organization

1. TECHNICAL SUPPORT CENTER HEALTH PHYSICS SUPERVISOR (TSCCHPS)

The Health Physics (HP) Supervisor or his alternate (see the St. Lucie Plant Emergency Response Directory (ERD)) shall assume duties as the TSCCHPS in the Technical Support Center (TSC). He is responsible for all HP activities and reports to the Emergency Coordinator (EC). A TSCCHPS Checklist, Form HP-200.1 is provided in this procedure. See Section 8.2 for instructions to be followed prior to activation of the TSC and/or prior to arrival of the TSCCHPS.

2. HEALTH PHYSICS OSC SUPERVISOR (HPOSC)

The senior HP Operations Supervisor shall assume duties as the HP Supervisor in the Operational Support Center (HPOSC). He reports to the TSCCHPS in the TSC. He is responsible for coordinating all HP activities from the Operational Support Center (OSC). A HPOSC Supervisor Checklist, Form HP-200.2 is provided in this procedure.

3. HEALTH PHYSICS TECHNICAL STAFF

The Health Physics Technical Staff shall report immediately to the TSCCHPS for assignment.

4. HEALTH PHYSICS TECHNICIAN (HPT)

Radiation Protection Technologists (RPTs) assume the role of Health Physics Technicians (HPTs = OSCHP Tech) and shall immediately report to or be in contact with the OSC. They will be assigned duties by the HPOSC.

8.2 ON-SHIFT HEALTH PHYSICS RESPONSE TO EMERGENCIES

1. An Emergency Class declaration of an Alert or higher during off-normal working hours will require additional HP staffing. The senior HP representative on-site will implement the HP emergency procedures. It is expected that this initial period will last for about one hour.

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

8.0 INSTRUCTIONS: (continued)

8.2 (continued)

2. The senior HP representative on-site shall notify the Emergency Coordinator and apprise him of HP assistance available on-site. He will take his orders directly from the Emergency Coordinator and should assume his duties in the plant or OSC and not in the TSC unless otherwise directed by the Emergency Coordinator. He should attempt to remain in a position to be reached by the Emergency Coordinator if necessary.
3. Since there will be only limited health physics coverage available, it is very important for the senior HP representative on-site to discuss with the Emergency Coordinator (or his designee) the coverage which each feels is necessary and to prioritize that coverage. The following list may be used to assist in the decision of assigning priorities: (in order of preference)
  - A. Radiological coverage necessary to allow expedient entry to areas when required to place the plant in a safe condition
  - B. Treatment of contaminated personnel
  - C. Radiological coverage during high activity sampling
  - D. Preparations for extensive in-plant monitoring and surveillance
4. When the additional HP support arrives, the initial period will have passed. In order to maintain continuity and to effect a smooth transfer from the interim to the fully staffed mode it is necessary that the HP command function not change hands more than is absolutely necessary. Therefore, even though the senior HP representative on-site can be relieved by a more senior Technologist or Supervisor, he should not be relieved by anyone except the HP Supervisor or his alternate.

HP personnel shall report to the OSC when they arrive on-site and should contact the senior HP representative on-site for assignments.

5. The senior HP representative on-site shall initiate the TSCHPS's Checklist, Form HP-200.1.

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

8.0 INSTRUCTIONS: (continued)

8.3 Health Physics Emergency Operations Areas

1. Operations HP personnel will assemble in and work out of the OSC. HP Technical Staff personnel will assemble and work primarily in the TSC.
2. The TSCHPS will determine if the affected unit Reactor Auxiliary Building (RAB) Control Point is to be manned and will inform the EC and the HPOSC.
3. If the affected unit RAB Control Point becomes untenable, the TSCHPS will direct the HPOSC to man the RAB Control Point of the unaffected unit or designate an alternate Control Point. The TSCHPS will inform the EC of the alternate location.

8.4 Logistics and Supplies

1. Records and logs specified in the specific HP emergency procedures shall be kept up to date and shall be reviewed by the TSCHPS.
2. Emergency radiation protection supplies are located for use in the following places:
  1. RAB Control Points (Unit 1 & Unit 2)
  2. Operational Support Center (OSC)
  3. Site Assembly Station (SAS)
  4. Unit 1 Control Room (for use by TSC and Unit 1 C.R. personnel)
  5. Unit 2 Control Room
3. The HPOSC will ensure that materials and equipment are provided to operating areas as needed.

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

8.0 INSTRUCTIONS: (continued)

8.5 Emergency Personnel Exposure Control (HP-201)

1. The TSCHPS shall ensure that all personnel on-site during emergency operations wear proper dosimetry. He shall determine when special dosimetry is required.
2. The HPTs through the HPOSC will provide radiological surveys and/or coverage for all areas in which personnel access is required.
3. If personnel exposures are likely to exceed plant guidelines, the guidelines in Health Physics Procedure HP-201, "Emergency Personnel Exposure Control," shall be followed.
4. All personnel exposures during emergency operations will be maintained As Low As Reasonably Achievable - ALARA.

8.6 Off-site and On-Site Environmental Monitoring (HP-202)

1. The Emergency Coordinator is responsible for ensuring that the TSCHPS initiates off-site radiological monitoring, in accordance with the E-Plan, within a 10 mile radius of the plant. Off-site field monitoring activities will be coordinated with the State of Florida.
2. The TSCHPS will direct the HPOSC to dispatch the Field Monitoring Teams to the East parking lot to wait instructions from TSC.

/R17

NOTE

If the Field Monitoring Team communicator/control has not been activated, the Field Monitoring Teams should make contact with the OSC and report their status.

3. The Field Monitoring Teams will assemble their equipment, check it for operability and establish contact with the TSC. The TSCHPS in the TSC provides supervision for the Field Monitoring Teams as per EPIP-10, "Off-site Radiological Monitoring," and HP-202, "Environmental Monitoring During Emergencies."

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

8.0 INSTRUCTIONS: (continued)

8.7 Personnel Access Control (HP-203)

1. No re-entry into areas affected by the emergency shall be made unless authorized by the Emergency Coordinator.
2. The initial entry of the Re-entry Team and all subsequent entries, until radiation areas have been properly marked, shall take place under the supervision of the TSCHPS as per EPIP-05, "Activation and Operation of the Operational Support Center."
3. Following re-entry procedures, the TSCHPS will direct the HPOSC to establish the access control point(s). The HPTs shall maintain access control to all affected areas of the plant for the purpose of controlling personnel exposures as per HP-203, "Personnel Access Control During Emergencies."

8.8 Radiation and Contamination Surveys (HP-204)

NOTE

In the event of a Steam Generator Tube Rupture (SGTR), the following areas should initially be posted as contaminated:

- A. Steam Trestle
- B. Condenser Air Ejector
- C. Condensate Polisher

1. The Emergency Coordinator and TSCHPS will determine the extent of surveys required.
2. The TSCHPS will direct the HPOSC to establish survey teams utilizing the buddy system. The HPOSC will direct the conduct of all in-plant surveys, ensure data is properly recorded and posted and keep the TSCHPS informed of the results.
3. Surveillance for emergency situation shall include as a minimum:
  1. Radiation surveys
  2. Contamination surveys

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

8.0 INSTRUCTIONS: (continued)

8.8 (continued)

3. (continued)

3. Airborne activity surveys
4. Radiological monitoring of potentially high activity chemistry sample operations
5. Surveys as called for in the Emergency Operating Procedures (EOPs).
6. Special surveys as determined by the TSCHPS.

8.9 In-Plant Air Sampling and Counting (HP-205, HP-206)

1. During an emergency, higher than normal radiation levels and airborne concentrations can be expected. It is important that sampling be commenced as expeditiously as possible to support rapid re-entry if necessary.
2. All in-plant air sampling will be performed in such a manner as to ensure personnel exposures are ALARA.
3. The procedures HP-205, "Emergency In-Plant Air Sampling" and HP-206, "Analysis of Emergency In-Plant Air Samples," should be followed in sampling and analyzing samples.

8.10 Personnel Monitoring Following Evacuation (HP-207)

1. In the event it becomes necessary to evacuate personnel from the plant and a release has occurred or is in progress, check points will be established immediately to allow monitoring of these personnel. The check points will be at Jaycee Park, unless alternate routes and assembly locations are specified by the EC.

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

8.0 INSTRUCTIONS: (continued)

8.11 Personnel Decontamination (HP-208)

1. Personnel decontamination following an accident can pose special problems not encountered in everyday situations including extremely high levels of contamination and/or large numbers of personnel being contaminated at the same time.
2. Personnel decontamination at the Off-site Assembly Area will be under the cognizance of the TSCHPS and will be directed by his designee at that area. HP-208, "Personnel Decontamination During Emergencies," addresses off-site personnel decontamination.
3. Personnel decontamination on-site will be under the direction of the HPOSC and should be conducted in the hot shower area of the unaffected unit or at a location specified by the TSCHPS.

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

**HP200.1**  
**TECHNICAL SUPPORT CENTER HEALTH PHYSICS SUPERVISOR CHECKLIST**

INITIAL

- |    |   |       |
|----|---|-------|
| 1. | <u>Contact the OSC and assess available HP resources on site:</u> | _____ |
| a. | TSC   |       |
|    | HP Network Communicator   | _____ |
|    | Field Monitoring Team Communicator                                | _____ |
| b. | OSC   |       |
|    | Number of HP Techs  | _____ |
|    | Number of Dosimetry Techs   | _____ |
|    | Number of Utility Workers   | _____ |
|    | HPOSC Supervisor _____  |       |
| c. | Number of HPTs assigned to Unit 1 Control Room                    | _____ |
| d. | Number of HPTs assigned to Unit 2 Control Room                    | _____ |

ST. LUCIE PLANT  
 HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

**HP200.1**  
**TECHNICAL SUPPORT CENTER HEALTH PHYSICS SUPERVISOR CHECKLIST**  
 (continued)

INITIAL

CAUTION

Be aware of the following conditions. These Emergency Action Levels (EALs) are associated with Initiating Conditions (ICs) used in the classification of emergencies (EPIP-01, Classification of Emergencies) the Emergency Coordinator needs to know if any of these conditions exist.

1. Measured dose rates from off-site surveys at the site boundary (1 mile) exceed either of the following:
  - a. 1000 mrem/hr (total dose rate)
  - b. 5000 mrem/hr (thyroid dose rate)

2. Contact Emergency Coordinator (EC)

- a. Inform EC of HP Department status in the TSC and OSC. \_\_\_\_\_
- b. Determine and prioritize immediate HP coverage needs:

NOTE

Operations will require that radiation surveys be conducted to support the EOPs.

<u>Priority</u>	<u>Job/Location</u>	<u># HPs Required</u>

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

**HP200.1**  
**TECHNICAL SUPPORT CENTER HEALTH PHYSICS SUPERVISOR CHECKLIST**  
(continued)

2. (continued) INITIAL

c. Event Classification Date/Time

- a) UNUSUAL EVENT \_\_\_\_/\_\_\_\_
- b) ALERT \_\_\_\_/\_\_\_\_
- c) SITE AREA EMERGENCY \_\_\_\_/\_\_\_\_
- d) GENERAL EMERGENCY \_\_\_\_/\_\_\_\_

3. OSC Considerations

a. Establish communications with the OSC (if activated). \_\_\_\_\_

b. Appoint HPOSC Supervisor Name: \_\_\_\_\_  
Phone: \_\_\_\_\_ \_\_\_\_\_

c. Inform HPOSC to complete HPOSC Checklist HP-200.2. \_\_\_\_\_

d. Exchange information on plant status, event classification, available personnel and prioritize jobs requiring HP coverage. Also, discuss planning strategies and personnel allocations. \_\_\_\_\_

e. Direct HPOSC to dispatch Field Monitoring Teams according to the following classification schedule:

- ALERT** - On-site, out of plant - 1 Team (RED)
- SITE AREA OR GENERAL EMERGENCY** - On-site, out of plant - 1 Team (RED) and off-site - 2 Teams (ORANGE,BLUE)

\_\_\_\_\_

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

**HP200.1**  
**TECHNICAL SUPPORT CENTER HEALTH PHYSICS SUPERVISOR CHECKLIST**  
(continued)

3. (continued)

INITIAL

NOTE

It is possible for the TSC and OSC to be in operation for weeks following a plant accident. It is the TSC/HP's responsibility to determine when to activate frisking stations for those facilities and the locations of those stations. Once frisking is initiated all personnel entering these facilities shall be monitored for contamination.

- f. Direct HPOSC to establish RCA/RAB access control points if portions of the RCA were evacuated or RAB re-entry is planned.

CONTROL POINT LOCATIONS \_\_\_\_\_  
\_\_\_\_\_

- g. If a Site Evacuation has been ordered and a release has occurred or is in progress, direct the HPOSC to dispatch two HPTs to the Off-Site Assembly Area to monitor the evacuees.

- h. If additional HP personnel resources may be needed, consider requesting assistance through:

- PTN
- Industry (through INPO)
- Department of Energy (through NRC)

4. TSC Considerations

- a. In conjunction with the TSC Chemistry Supervisor, advise the EC and/or TSC EC Assist/Logkeeper on radiological conditions and Protective Action Recommendations, as necessary.

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

**HP200.1**

**TECHNICAL SUPPORT CENTER HEALTH PHYSICS SUPERVISOR CHECKLIST**

(continued)

- |  | <u>INITIAL</u> |
|--|----------------|
| 4. (continued)   | _____          |
| b. Assign person to continuously man the Health Physics Network (HPN) phone.<br><br>(Ref. I&E Notice 86-97)                  | _____          |
| c. Contact the TSC Chemistry Supervisor to determine if accident samples are required (yes/no).                              | _____          |
| d. Assign person to direct field monitoring teams and evaluate the data as it becomes available.                             | _____          |
| e. Confer with chemistry and/or the EOF on dose projections and effected EPZ sectors.  | _____          |
| f. Establish communications between the TSC Field Monitoring Team and the EOF Field Monitoring Coordinator (when activated). |                |
| 1. Exchange names and phone numbers  |                |
| Name(s) _____ Phone # _____  |                |
| 2. Relay field monitoring results as available.  | _____          |

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

**HP200.1**  
**TECHNICAL SUPPORT CENTER HEALTH PHYSICS SUPERVISOR CHECKLIST**  
(continued)

4. (continued) INITIAL
- g. Direct that habitability surveys of the following areas are performed. \_\_\_\_\_
- \* 1. Control Room No. 1
  - \* 2. Control Room No. 2
  - \* 3. TSC (turn on CAM)
  - 4. OSC
  - 5. RAB Control Points (if inhabited)
- \* Surveys of TSC and Control Rooms should be completed by personnel assigned to those areas.
5. Additional Comments by TSCHPS:

Completed by: \_\_\_\_\_

Date Completed: \_\_\_/\_\_\_/\_\_\_

<p><b>NOTE</b> File this Checklist in accordance with QI-17-PSL-1, "Quality Assurance Records."</p>
---

ST. LUCIE PLANT  
 HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

**HP200.2**  
**HPOSC SUPERVISOR CHECKLIST**

INITIAL

1. Perform accountability of HPTs and provide to OSC Supervisor: \_\_\_\_\_

NOTE  
 Consult the Radiation Exposure Summary Report for selection of respirator qualified field monitoring team members.

2. Dispatch on-site Field Monitoring Team to East parking lot when directed by TSCHPS. \_\_\_\_\_ /R17

1 HPT, 1 driver and vehicle. \_\_\_\_\_

3. Dispatch off-site Field Monitoring Teams to East parking lot when directed by TSCHPS. \_\_\_\_\_ /R17

2 HPTs, 2 drivers, 2 vehicles.

4. If RCA is NOT EVACUATED start preparations for accumulating supplies and instruments in the event of RCA evacuation. \_\_\_\_\_

5. If RCA is NOT EVACUATED perform necessary job coverage for OPS or maintenance personnel attempting to mitigate the problem. \_\_\_\_\_

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

**HP200.2**  
**HPOSC SUPERVISOR CHECKLIST**  
(continued)

INITIAL

6. If RCA evacuation is necessary, perform the following:

- |      |   |       |
|------|---|-------|
| 1.   | Dispatch HPT to each Control Room   | _____ |
| 2.   | Remove Instruments to OSC   | _____ |
| ¶ 3. | Take boxes of Electronic Dosimeters from RAB entrance stations to OSC.            | _____ |
| 4.   | Determine H.P. Personnel available in OSC Report to the TSCHPS and OSC Supervisor | _____ |
| 5.   | Establish OSC access control points(s)  | _____ |
| 6.   | Establish Dosimetry Section in OSC.   | _____ |
| 7.   | Establish Contamination Control for OSC.  | _____ |
| 8.   | Inform TSCHPS   | _____ |
| 9.   | Setup a Continuous Monitoring Count Rate Meter In OSC                             | _____ |

**CAUTION**

The OSC affords limited protection against a release of radioactive material. During the time that a radioactive release is occurring, the habitability of the OSC is to be monitored. A measured dose rate of 50 mrem/hr, in the facility, is established as the threshold for relocation of the OSC.

- |     |  |       |
|-----|--|-------|
| 10. | Perform habitability surveys of the OSC and, if inhabited, RAB Control Point and provide survey results to TSCHPS. | _____ |
|-----|--|-------|

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

**HP200.2**  
**HPOSC SUPERVISOR CHECKLIST**  
(continued)

INITIAL

7. If directed by the TSCHPS, dispatch two HPTs to the offsite assembly area:

Name: \_\_\_\_\_ Dispatch Time: \_\_\_\_\_

Name: \_\_\_\_\_ Dispatch Time: \_\_\_\_\_

\_\_\_\_\_

8. Ensure all Reentry Teams are adequately briefed in accordance with HP-203.1 prior to being dispatched from the OSC.

\_\_\_\_\_

9. Advise and assist the OSC Supervisor as necessary in actions to mitigate accident.

\_\_\_\_\_

10. HPOSC Supervisor Comments:

Completed by: \_\_\_\_\_

Date Completed: \_\_\_/\_\_\_/\_\_\_

**NOTE**

File this Checklist in accordance with QI-17-PSL-1, "Quality Assurance Records."

ST. LUCIE PLANT  
 HEALTH PHYSICS PROCEDURE NO. HP-200, REVISION 17  
HEALTH PHYSICS EMERGENCY ORGANIZATION

**HP 200.3**  
**HPN COMMUNICATOR CHECKLIST**

- |  | <u>INITIAL</u> |
|--|----------------|
| 1. Report / Sign in / Obtain ID Badge. | _____          |
| 2. Get status from TSC HPS.            | _____          |
| 3. Get HP supply case & procedures.    | _____          |

	<u>NOTE</u>
Typical HPN Questions:	
A. Meteorological Data	
B. Release data	
C. Plant radiological inquiries	
D. Field team data	
E. Assist FMT Coordinator	

- |  |       |
|--|-------|
| 4. Activate HPN phone:   | _____ |
| A. Call NRC - Identify self & activity.  | _____ |
| B. Request to be coupled to the HPN bridge network.  | _____ |
| 5. Review ERDADS (Plant Rad Monitor Data).   | _____ |
| 6. Review off-site Dose Rad Assessment Board.  | _____ |
| 7. Review off-site monitoring field team status board.   | _____ |
| 8. Provide data to TSC HPS.  | _____ |
| 9. Assist TSC HPS as needed (dispense dosimetry, set-up air monitor, TSC Rad Surveys, provide rad monitor data, etc.). | _____ |

	<u>NOTE</u>
File this Checklist in accordance with QI-17-PSL-1, Quality Assurance Records.	



FPL

# ST. LUCIE PLANT HEALTH PHYSICS PROCEDURE

SAFETY RELATED

Procedure No.  
**HP-202**

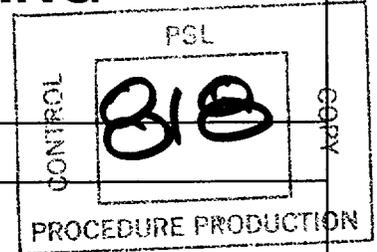
Current Rev. No.  
**28**

Effective Date:  
**11/19/01**

Title:

## ENVIRONMENTAL MONITORING DURING EMERGENCIES

Responsible Department: **HEALTH PHYSICS**



### Revision Summary

**Revision 28** - Changed to reflect relocating emergency kits to south service bldg. at OSC area. (D. Reisinger, 11/12/01)

**Revision 27** - Corrected on-site monitoring locations 15 & 16 on Figure in Appendix B. (J. R. Walker, 09/21/00)

**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
<u>0</u>	<u>07/07/81</u>	<u>C. M. Wethy</u> Plant General Manager	<u>07/13/81</u>	DATE _____ DOCT <u>PROCEDURE</u> DOCN <u>HP-202</u> SYS _____ COMP <u>COMPLETED</u> ITM <u>28</u>
<u>28</u>	<u>11/12/01</u>	<u>R. G. West</u> Plant General Manager	<u>11/12/01</u>	
		<u>N/A</u> Designated Approver		
		<u>N/A</u> Designated Approver (minor correction)		

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
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 28  
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 as directed by the TSCHPS. /R28
- 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  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
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 28  
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 completion of inventory / checkout of equipment 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 28  
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 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

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  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
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 28  
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 Protected Area verify the following:   | /R28  |
| 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 \_\_\_\_/\_\_\_\_/\_\_\_\_

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

**APPENDIX A**  
**OPERABILITY INSTRUCTIONS**

(Page 1 of 11)

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.

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

**APPENDIX A**  
**OPERABILITY INSTRUCTIONS**

(Page 2 of 11)

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.

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

**APPENDIX A**  
**OPERABILITY INSTRUCTIONS**

(Page 3 of 11)

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.

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

**APPENDIX A**  
**OPERABILITY INSTRUCTIONS**

(Page 4 of 11)

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.

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

**APPENDIX A**  
**OPERABILITY INSTRUCTIONS**

(Page 5 of 11)

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.

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

**APPENDIX A**  
**OPERABILITY INSTRUCTIONS**

(Page 6 of 11)

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.

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

Background Counts per Minute= \_\_\_\_\_ (5.6)

Gross Counts per Minute = \_\_\_\_\_ (5.12)

Net Counts per Minute = \_\_\_\_\_ (5.14)

**APPENDIX A**  
**OPERABILITY INSTRUCTIONS**  
(Page 7 of 11)

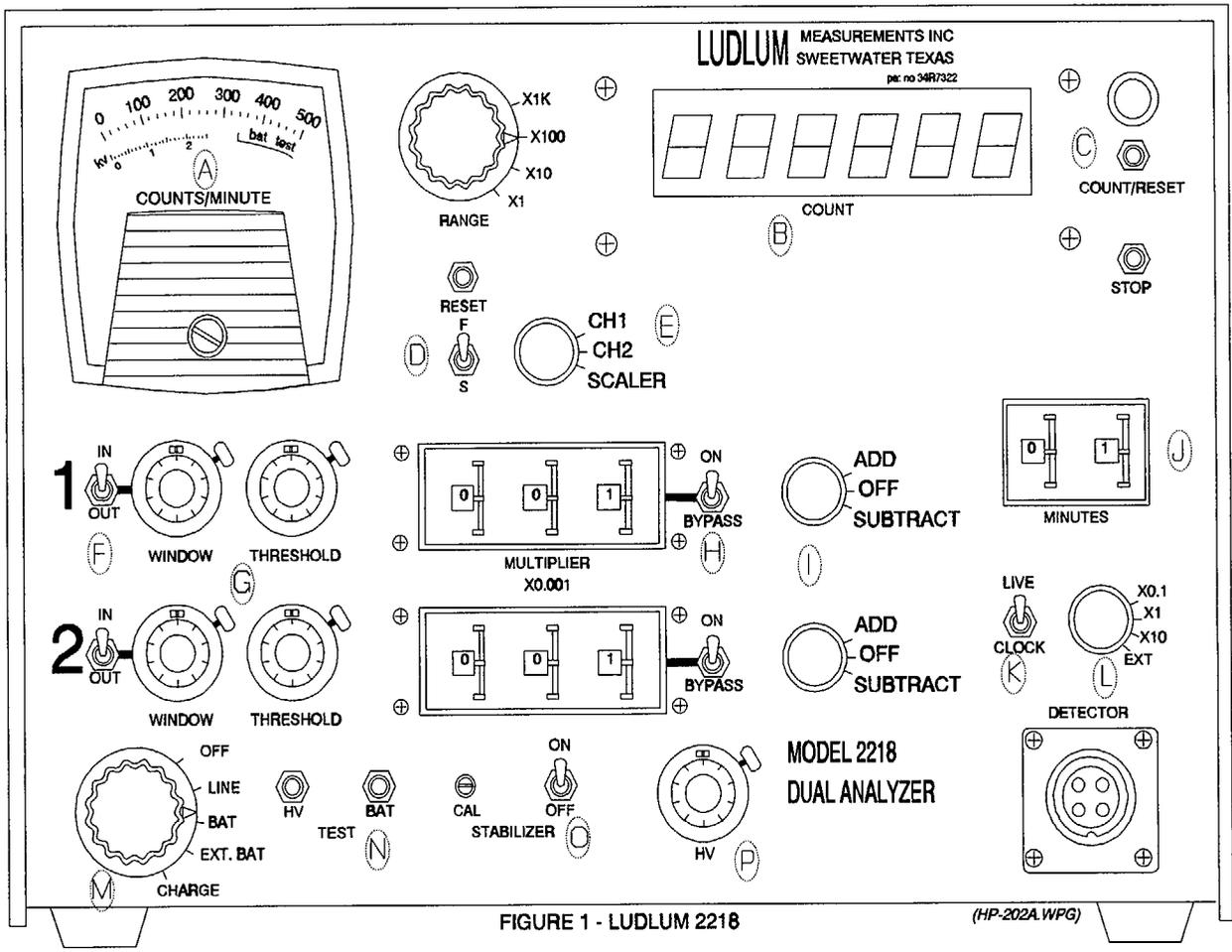


FIGURE 1 - LUDDLUM 2218

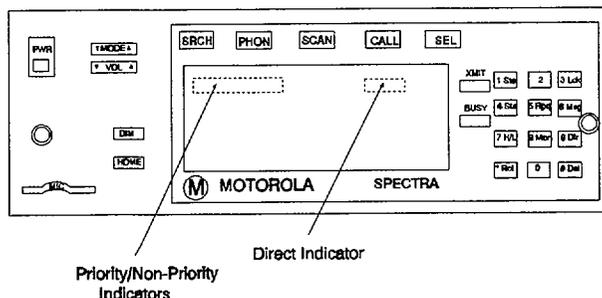
Battery Check	HV Adjustment	Count Verification	Operational Check (Ch1)/Operation
M - set to "BAT"	L - set to "EXT"	L - set to "X1"	O - toggle to "OFF"
N - depress test button to check battery condition	C - depress button to start count	C - depress button to start count	I - Ch1 to "ADD," Ch2 to "OFF"
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

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

**APPENDIX A**  
**OPERABILITY INSTRUCTIONS**

(Page 8 of 11)

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.

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

**APPENDIX A**  
**OPERABILITY INSTRUCTIONS**

(Page 9 of 11)

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 [ <b>Sel</b> ]	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.

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

**APPENDIX A**  
**OPERABILITY INSTRUCTIONS**

(Page 10 of 11)

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.

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

**APPENDIX A**  
**OPERABILITY INSTRUCTIONS**

(Page 11 of 11)

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**

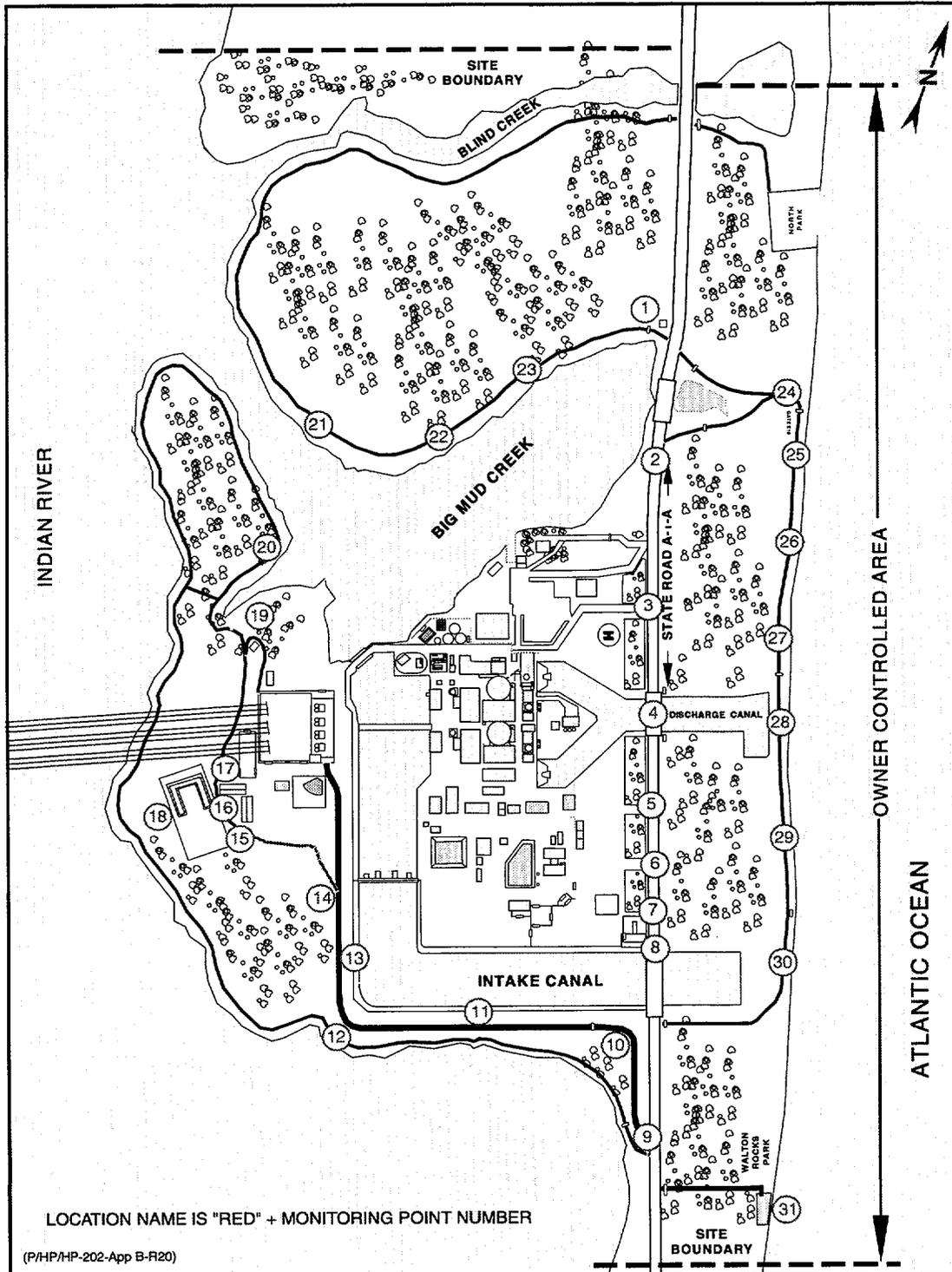
It is mandatory that radio installation in vehicles fueled by liquefied petroleum gas conform to the following standard:

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  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

**APPENDIX B**  
**PRESELECTED ON-SITE MONITORING POINTS**  
(Page 1 of 4)



ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

**APPENDIX B**  
**PRESELECTED ON-SITE MONITORING POINTS**

(Page 2 of 4)

<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

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

**APPENDIX B**  
**PRESELECTED ON-SITE MONITORING POINTS**

(Page 3 of 4)

<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

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

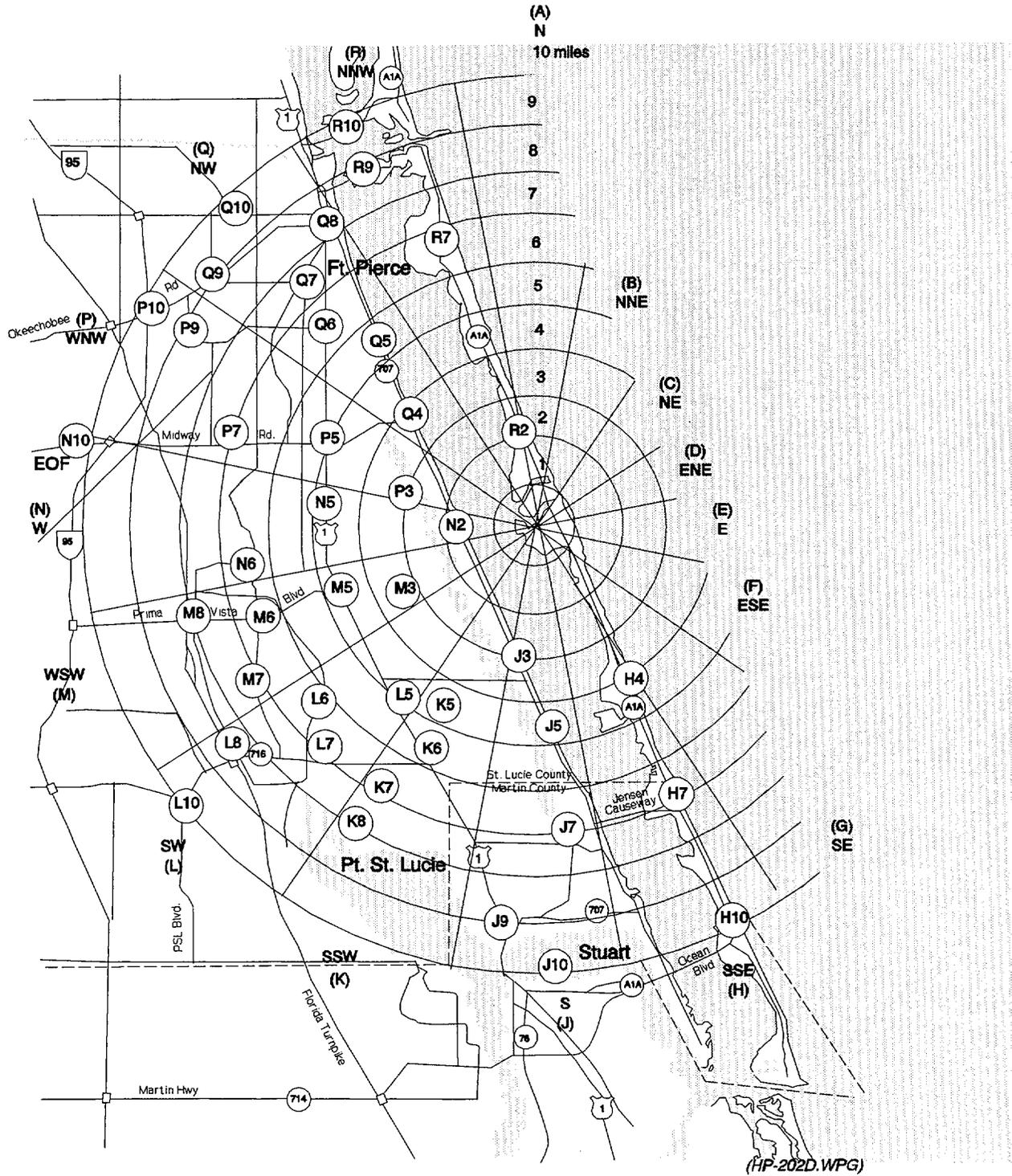
**APPENDIX B**  
**PRESELECTED ON-SITE MONITORING POINTS**

(Page 4 of 4)

<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

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

**APPENDIX C**  
**PRESELECTED OFF-SITE MONITORING POINTS**  
(Page 1 of 4)



(HP-202D.WPG)

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

**APPENDIX C**  
**PRESELECTED OFF-SITE MONITORING POINTS**  
(Page 2 of 4)

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

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

**APPENDIX C**  
**PRESELECTED OFF-SITE MONITORING POINTS**  
(Page 3 of 4)

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

ST. LUCIE PLANT  
HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28  
ENVIRONMENTAL MONITORING DURING EMERGENCIES

**APPENDIX C**  
**PRESELECTED OFF-SITE MONITORING POINTS**  
(Page 4 of 4)

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

**ST. LUCIE PLANT**  
**HEALTH PHYSICS PROCEDURE NO. HP-202, REVISION 28**  
**ENVIRONMENTAL MONITORING DURING EMERGENCIES**

**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.  $MDCR = BKG \text{ cpm} + 4.66 \sqrt{\frac{BKG \text{ cpm}}{BKG \text{ Count Time}}} = \text{_____ MDCR (cpm)}$
7. Gross sample count rate (GCPM) = Gross counts / Count Time  
 = \_\_\_\_\_ counts / \_\_\_\_\_ min  
 = \_\_\_\_\_ GCPM
8. If "GCPM" is less than "MDCR", Then <sup>131</sup>I activity is "<MDA" (less than detectable).
9. Net Count Rate (NCPM) = GCPM - Bkg cpm  
 NCPM = \_\_\_\_\_ GCPM - \_\_\_\_\_ BKG cpm  
 NCPM = \_\_\_\_\_
10. <sup>131</sup>I activity ( $\mu\text{Ci}/\text{ml}$ ) =  $\frac{(\text{_____ NCPM})}{(2.63 \text{ E} + 09) (\text{_____ sample volume, Ft}^3)}$

\* 11. <sup>131</sup>I activity = \_\_\_\_\_  $\mu\text{Ci}/\text{ml}$

\* 12. Plume Departure Time \_\_\_\_\_

\* 13. Plume Stay Time: \_\_\_\_\_ minutes

Survey performed by \_\_\_\_\_

**NOTIFY TSC OF ALL \* ITEMS**