



**JUN 22 2000**  
**L-2000-139**  
**10 CFR 50.54(q)**  
**10 CFR 50 Appendix E**

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

Re: Turkey Point Units 3 and 4  
Docket Nos. 50-250 and 50-251  
Emergency Plan Implementing Procedure Change

The following Emergency Plan Implementing Procedures have been revised:  
0-EPIP-20101, Duties of the Emergency Coordinator  
0-EPIP-20132, Technical Support Center (TSC) Activation and Operation  
0-EPIP-1102, Duties of the Recovery Manager  
0-EPIP-1212, Emergency Operation Facility (EOF) Activation and Operation  
0-EPIP-20104, Emergency Response Organization Notification/Staff Augmentation  
0-EPIP-20126, "Offsite Dose Calculations"

Pursuant to the requirements of 10 CFR 50.54(q) and 10 CFR 50 Appendix E, one copy of each of the revised procedures is enclosed. A summary of changes to each procedure is attached. The implementation date for the revisions was June 1, 2000, for all but 0-EPIP-20126. The implementation date for the revision to 0-EPIP-20126 was June 8, 2000. FPL has determined that the changes described do not result in a decrease in the effectiveness of the Emergency Plan.

Very truly yours,

R. J. Hovey  
Vice President  
Turkey Point Plant

CLM

Attachment, enclosures

cc: Regional Administrator, Region II, USNRC (2 copies)  
Senior Resident Inspector, USNRC, Turkey Point Plant (w/o enclosure)

A045

### SUMMARY OF CHANGES

The changes for 0-EPIP-20101, 0-EPIP-20132, 0-EPIP-1102, 0-EPIP-1212, and 0-EPIP-20104 are summarized as follows:

**Change to the State of Florida Notification Form by the State of Florida.**

The title of the form has changed from "State of Florida Notification Message Form for Nuclear Power Plants" to "Florida Nuclear Plant Emergency Notification Form."

The form now contains a Supplemental Data Sheet that is required to be completed after the TSC is declared Operational or for an Alert or higher. The Supplemental Data Sheet contains radiological dose assessment data and a new information section requiring plant conditions information.

A Signature Approval section for the EC or RM has been added to both pages of the new notification form.

#### 0-EPIP-20126, Offsite Dose Calculations

Pg 13 , Step 5.4.1.6

Step was revised to correct references to guidance and method.

Page 17, table of Process Radiation Monitoring System parameters :

Change "Background" to "Routine Reading," to clarify the meaning of the value in this column.

Page 18, "For Steam Generator tube Rupture," values were corrected to reflect current SGTR analysis.

Page 20, Instruction group "A"

Insert a new step 7, to describe computer login at the EOF

Pages 54, 55, 56, and 57:

Incorporate Operations' definition of a 'dry S/G' for the purposes of determining if the tube leak is above or below the water line.

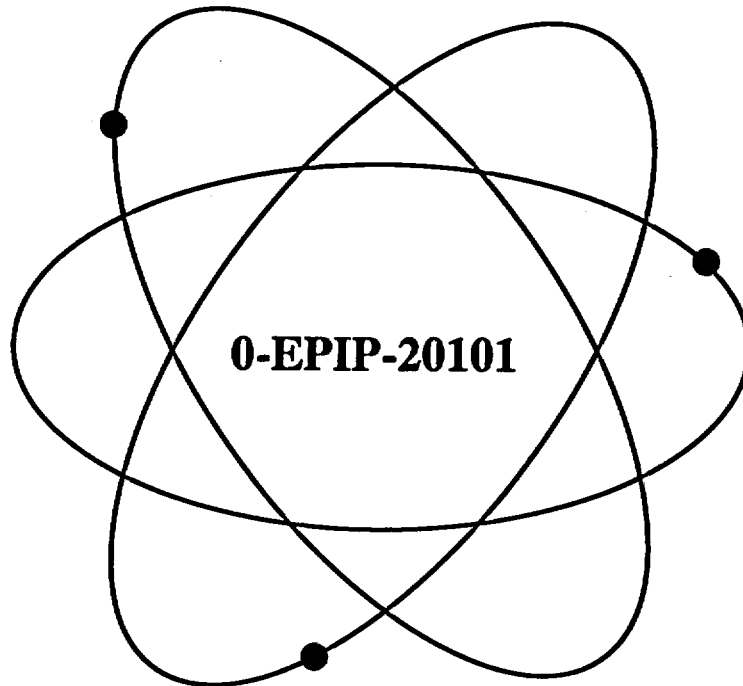
Page 58 :

Insert a 'new' page to incorporate an additional method to estimate a SGTR release rate.

Several editorial changes were made to conform to guidance on procedure format.

# Florida Power & Light Company

## Turkey Point Nuclear Plant



Title:

### Duties of Emergency Coordinator

#### Safety Related Procedure

<i>Responsible Department:</i>	Emergency Preparedness
<i>Revision Approval Date:</i>	5/31/00
<i>Periodic Review Due:</i>	9/11/01

RTSs 96-0928P, 97-1403P, 98-0483, 98-0699, 00-0248P  
PCM 92-004

**LIST OF EFFECTIVE PAGES**

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## 1.0 PURPOSE

- 1.1 This procedure provides the guidelines to be followed by the Emergency Coordinator when an emergency occurs that requires initiation of the Turkey Point Radiological Emergency Plan.
- 1.2 This procedure provides guidance for actions that the Emergency Coordinator will take in a plant emergency.
- 1.3 For planned evolutions, such as safeguards, this procedure does not apply. However, if a deviation from the planned evolution (i.e., any unplanned evolution) occurs, this procedure should be consulted.

## 2.0 REFERENCES/RECORDS REQUIRED/COMMITMENT DOCUMENTS

### 2.1 References

#### 2.1.1 Plant Procedures

1. 0-ADM-028, On the Job Injuries
2. 0-ADM-034, Oil and Hazardous Material Emergency Response Plan and Spill Prevention, Control and Countermeasure (SPCC) Plan
3. 0-ADM-115, Notification of Plant Events
4. 0-EPIP-20104, Emergency Response Organization Notifications/ Staff Augmentation
5. 0-EPIP-20106, Natural Emergencies
6. 0-EPIP-20110, Criteria for and Conduct of Owner Controlled Area Evacuation
7. 0-EPIP-20111, Re-entry
8. 0-EPIP-20126, Off-site Dose Calculations
9. 0-ONOP-016.10, Pre-Fire Plan Guidelines and Safety Shutdown Manual Actions
10. 3/4-ONOP-094, Alternate Methods for Containment Post Accident Monitoring

### 2.1.2 Regulatory Guidelines

1. 10 CFR 50.47, Emergency Plans
2. 10 CFR 50, Appendix E, Emergency Planning and Preparedness for Production and Utilization Facilities
3. NUREG-0654, FEMA-REP-1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants
4. NUREG/BR-0150, Volume 1, Rev 4, Response Technical Manual, RTM-96

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

1. Turkey Point Plant Radiological Emergency Plan |
2. Turkey Point Plant Emergency Response Directory (ERD) |
3. PC/M 92-004, Upgrading Plant Page Audibility
4. Condition Report 96-880, Radiological Releases, Emergency Classification Table, Item 7
5. Condition Report 96-881, Definition of Power Block
6. PTN-ENG-SENS-97-088, Pre-Planned Alternative Monitoring for the Containment High Range Radiation Monitors
7. Security Force Instruction 6307, Emergency Evacuation and Accountability

## 2.2 Records Required

2.2.1 Completed originals of the below listed item(s) constitute Quality Assurance records and shall be transmitted to QA Records for retention in accordance with Quality Assurance Records Program requirements:

1. Subsections of this procedure required to be completed during the performance of this procedure:
  - a. Forms similar to Attachment 1
  - b. Forms similar to Attachment 2
  - c. Forms similar to Attachment 3, Page 1
  - d. The Emergency Log Book

2.2.2 Copies of the records of Steps 2.2.1 shall be transmitted to the Emergency Preparedness Coordinator. Originals shall be submitted as QA Records to be retained in accordance with Quality Assurance Program requirements.

### 3.0 RESPONSIBILITIES

#### 3.1 Emergency Coordinator

3.1.1 The Nuclear Plant Supervisor (NPS) assumes the responsibilities of the Emergency Coordinator in the initial phases of a plant emergency. If the Nuclear Plant Supervisor (NPS) is incapacitated, the Emergency Coordinator shall be (in order of succession in the Control Room staff).

1. Assistant Nuclear Plant Supervisor
2. Nuclear Watch Engineer
3. Any other member of the plant staff with an active Senior Reactor Operator License

3.1.2 A member of the Plant Management Staff may later assume Emergency Coordinator (EC) duties when he or she reaches the Control Room or TSC and becomes familiar with the emergency. The NPS will, at that time, return to the normal responsibility of control of the units. Turnover between ECs should be performed in the Control Room, if possible, with the new EC taking the Emergency Log Book to continue records of the event.

3.1.3 The Emergency Coordinator shall only grant permission for watch relief, including his own, when a proper turnover has been given and in his judgment, it is safe to do so.

3.1.4 The Emergency Coordinator shall authorize any radiation exposures in excess of regulatory limits. This authorization should be in accordance with 0-EPIP-20111, Re-entry. Authorization should be given only after consultation with the TSC Health Physics Supervisor and the Recovery Manager, if time permits. For those remote circumstances involving an event in progress, and obtaining EC approval will result in leaving the scene or decrease the victims chance of survival, life saving actions may be performed without obtaining EC approval. The EC shall be notified immediately following the rescue operation.

3.1.5 The Emergency Coordinator shall authorize personnel exposures in excess of regulatory limits only for volunteers who are familiar with the risks involved and the tasks to be performed. Declared pregnant adults should not be used as on-site emergency workers.

3.1.6 The Emergency Coordinator is responsible for implementing SAMGs, as necessary.

#### 4.0 DEFINITIONS

- 4.1 Emergency - any off-normal event or condition which is classified into one of the four event categories in Enclosure 1 of this procedure.
- 4.2 Emergency Notification System (ENS) - the circuit tying the NRC and Turkey point.
- 4.3 Emergency Response Directory (ERD) - the directory containing names and phone numbers of Emergency Response Organization personnel.
- 4.4 ESATCOM - Satellite based backup communications system for notifications to the State Warning Point.
- 4.5 Florida Nuclear Plant Emergency Notification Form - the form used to initiate, update, and terminate emergency notifications to State and Local Counties.
- 4.6 Hot Ring Down Telephone (HRD) - the dedicated link between State/Counties and Turkey Point.
- 4.7 Local Government Radio (LGR) - the communications network used as a backup to the HRD.
- 4.8 Off-site Power - power supplied from the grid through the Startup or Auxiliary Transformers (backfeed), or power supplied by the Auxiliary Transformer during normal operation.
- 4.9 On site - within the Protected Area.
- 4.10 On-site Power - power supplied by any of the four emergency diesel generators.
- 4.11 Owner Controlled Area - that portion of the FPL property surrounding and including the Turkey Point Plant, which is subject to limited access and control as deemed appropriate by FPL.
- 4.12 Power Block - structures comprising all permanent nuclear, power generation, and cooling structures, systems, and components within the Protected Area and permanent safety related or quality related utilities (e.g., air, water and electric) both inside and outside the Protected Area. The Power Block does not include the switchyard (Reference CR-96-881).
- 4.13 Release - during any declared emergency, any effluent monitor increase of approximately ten times/one decade above pre-transient values, or Health Physics detected airborne radioactivity levels in excess of 25 percent DAC outside of plant buildings due to a failure of equipment directly associated with the declared plant emergency.

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4.14 Site Boundary - land areas within a 1 mile radius of the affected unit.

4.15 Unrestricted Area - as defined in the Technical Specifications.

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## 5.0 PROCEDURE

### 5.1 General

- 5.1.1 The Emergency Coordinator (EC) can delegate his responsibilities to his subordinates with the exception of classification, the decision to notify Federal, State and Local authorities and the issuing of Protective Action Recommendations (PARs). The actual notification can be done by the EC's designee. Notification of off-site agencies and PARs become the responsibility of the Recovery Manager (RM) when the EOF is manned and operational. The EC documents his decision to notify State and Local authorities and his concurrence with PARs by initialing a form similar to Attachment 1.
- 5.1.2 During exercises, drills or tests, ALL MESSAGES shall begin and end with **THIS IS A DRILL.**
- 5.1.3 In any case where a General Emergency has been declared, the minimum protective action recommendation shall be: **Shelter all people within a 2 mile radius from the plant and 5 miles in the down wind sectors.**
- 5.1.4 Plant conditions, plume dose projection calculations, (from 0-EPIP-20126, Off-site Dose Calculations), and off-site monitoring results should be evaluated when making Protective Action Recommendations. If significant discrepancies exist between field monitoring results and plume dose projection calculations, an evaluation should be made, and the most conservative approach used in the determination of Protective Action Recommendations.
- 5.1.5 If a condition, which meets the Unusual Event or Alert criteria of Enclosure 1 is identified and subsequently rapidly resolved, the emergency classification shall be declared and immediately terminated. All required notifications shall be completed. Activation of the On-site Emergency Response Facilities is not required.



- 5.1.6 If a condition which meets the Site Area Emergency or General Emergency criteria of Enclosure 1 is identified and subsequently rapidly resolved, the emergency shall be declared and all notifications completed. De-escalation from the Site Area Emergency and General Emergency classifications may only be authorized by the Recovery Manager.
- 5.1.7 Protective Action Recommendations based upon off-site dose calculations shall be determined by comparing projected off-site doses to the action levels in Attachment 3. If the period of exposure is expected to be less than 2 hours the doses should be projected for the expected duration of the exposure. For longer duration exposures, the off-site doses should be projected for 2 hours and PARs should be based upon the 2 hour projections.
- 5.1.8 The Emergency Coordinator responsibilities shall reside with the EC in the Control Room until they have been formally transferred to the EC in the TSC.
- 5.1.9 Emergency notification to State and Local Counties is required within 15 minutes of declaring an emergency.
- 5.1.10 Emergency notification to the NRC is required immediately following notification of State and Counties, but not later than 1 hour from the declaration of an emergency.
- 5.1.11 If, during the notification process, it becomes necessary to upgrade the emergency classification,
1. Ensure that the State Warning Point has been notified of the Emergency Declaration within 15 minutes of making the initial classification,
  2. Stop the current notification process, and
  3. Proceed to the steps corresponding to the new emergency classification, including notification of the new classification to the State Warning Point.

**5.1.12 Plant Page Announcements**

1. PA Messages to site personnel do not have to be made verbatim; they are example messages only.
2. Announcements may not be made or may be modified as directed by the Emergency Coordinator, or his designee, if it is determined that such announcements may cause intruders to panic or make them aware of plant/security personnel responses in regard to security related events.
3. Important plant page announcements, such as changes in classification or plant status, should be made firmly, clearly, and distinctly so that the message can be heard throughout the plant.
4. The Page Volume Boost feature should be used when making Emergency Announcements from the Control Room. By pressing and holding the pushbutton on the console in the ANPS Workstation, or on the RCO's desk, the Page System speakers will broadcast at maximum volume, and the blue, high intensity strobe lights will be activated. Release the pushbutton when the announcement is complete.

**5.1.13** The Emergency Coordinator has the authority to waive individual's emergency response training requirements, as needed.

**5.1.14** Procedural notification steps may be performed out of sequence in order to meet State of Florida and/or NRC notification time requirements.

**5.1.15** Alternate commercial telephone numbers for State of Florida and NRC notification are listed in the Emergency Response Directory (ERD).

**5.1.16** Collection of Release Rate Data shall not delay State of Florida and NRC notifications. If the data is not available, notification shall be made and followed up as soon as the information is available.

**5.1.17 Evacuations and Emergency Response Facility (ERF) Activation**

1. The Emergency Coordinator shall consider plant and radiological conditions as they relate to the emergency prior to ordering an evacuation or activation of the ERF. As conditions warrant, the Emergency Coordinator may delay, postpone or make special requirements on the evacuation and/or ERF activation. Some examples of special circumstances and considerations are, as follows:
  - a. Radiological conditions (puff releases) when large doses may be received consider:
    - (1) Duration of the release
    - (2) Plant conditions
    - (3) Meteorological conditions
    - (4) Evacuation route availability
    - (5) Sheltering
    - (6) Routes to emergency facilities
    - (7) Other information pertinent to the release
  - b. Security events when unknown hazards or dangers (i.e., armed intruders, bomb threats, etc.) are perceived, consider:
    - (1) Location of intruders
    - (2) Bomb threat location
    - (3) Other information pertinent to the security threat.
  - c. Plant conditions where additional personnel are necessary to put the plant in a safer configuration (i.e., equipment hatch open, primary system open for repair, etc.).
  - d. On-site hazards, such as toxic gas, fires, or explosions where the movement of personnel would be placing them in additional risk.
  - e. Risks to plant personnel due to the inability to use the evacuation route (construction, traffic accidents, etc.).
  - f. Other similar events.

- 5.1.18 During an Emergency of Alert or higher, the Emergency Coordinator should confer with the TSC Security Supervisor concerning the impact of the emergency on Plant Security. During a Site Area Emergency or higher, and dependent on the degree of airborne release, the TSC Security Supervisor may recommend a complete or partial suspension of safeguards which may include, but is not limited to, any of the following:

**NOTE**

*Vital area doors unlocked by the computer will relock automatically after they are closed.*

1. Unlocking vital area doors through the security computer.
2. Suspension of designated security patrols or activities.
3. Maintenance of Protected Area Access Control only (suspension of all field patrols).
4. A partial evacuation of on-duty Security personnel.
5. Closing one or both Alarm/Communications Stations (CAS/SAS).
6. Complete suspension of Site Security Safeguards.

- 5.1.19 Classifying Simultaneous Emergencies: Emergency classifications based on simultaneously occurring events affecting each unit independently (e.g., LOCA on Unit 3 and Tube Rupture on Unit 4) shall be made based on the most severe event, and reported as the classification for the site. With multiple events occurring, only one emergency classification shall be made.

5.1.20 One of the primary reasons for the declaration and notification process is to prompt Local, State, and Federal Government Agencies to initiate actions to assure the health and safety of the public. The Government Agency response is based on an event affecting either unit at a multiple unit site, such as PTN. Therefore, the Government Agency's actions will address the most severe classification issued by the site, and having multiple classifications would only confuse the response. Examples regarding this issue are provided below.

1. If Unit 3 is in a classified event (an Alert, for example), and another event of the same or lesser classification (e.g., an Unusual Event or Alert) occurs on Unit 3 or Unit 4, then a new event classification should not be made, and the event notification should be issued as an update, at the earliest practical time.
2. If Unit 3 is in a classified event (an Alert, for example), and another event of higher classification (Site Area or General Emergency) occurs on either Unit 3 or Unit 4, then the new classification should be promptly issued to the State and NRC within the regulatory time requirements.
3. The Florida Nuclear Plant Emergency Notification Form (a form similar to Attachment 1) should indicate the unit for which the event is declared. If the event is common to both units, Unit 3 should be marked as the affected unit.

5.1.21 For Emergency Classification purposes, a representative containment radiation reading can be obtained from the pre-planned alternate method of containment radiation monitoring, if both CHRRMs are inoperable. Refer to 3/4-ONOP-094, Alternate Methods for Containment Post Accident Monitoring, for implementation and use of the pre-planned alternate method of containment radiation monitoring.

5.2 Classifying Events5.2.1 Fire/Explosion Emergency? Yes/NoTime1. IF NO, THEN proceed to Step 5.2.2.

2. Fire/Explosion reported.

Location \_\_\_\_\_

Class (if known) A / B / C / D (see Note below)

Injured personnel should be handled in accordance with 0-ADM-028, On the Job Injuries.

Extent of damage to plant components \_\_\_\_\_

NOTE*Fire Classes:**A - wood, paper, cloth, rubber**B - combustible liquids, gases, greases**C - electrical related (involving energized equipment)**D - combustible metals*

3. Make the following announcement using the Page Volume Boost:

"Attention all personnel. There is a reported Class (if known) \_\_\_\_\_  
 Fire/Explosion in Unit (3 or 4) \_\_\_\_\_ (location). \_\_\_\_\_ All  
 personnel in the Fire/Explosion location withdraw to a safe area. All Fire  
 Brigade members report to (location of fire/explosion) \_\_\_\_\_."

4. Sound Fire Alarm.

5. Follow alarm with page announcement using the Page Volume Boost:

"Attention all personnel. There is a reported Class (if known) \_\_\_\_\_  
 Fire/Explosion in Unit (3 or 4) \_\_\_\_\_ (location) \_\_\_\_\_ All  
 personnel in the Fire/Explosion location withdraw to a safe area. All Fire  
 Brigade members report to (location of fire/explosion) \_\_\_\_\_."

Time5.2.1 (Cont'd)**CAUTIONS**

- *Alarming dosimetry is available for Fire Brigade members to monitor direct radiological exposure. The air sampler located in the Fire Locker in the Auxiliary Building hallway is also available to assess airborne activity.*
- *It may be necessary to relieve the Health Physics Fire Team members with other qualified Fire Brigade members in order to ensure additional Health Physics support.*

- \_\_\_\_\_
6. Reference 0-ONOP-016.10, Pre-Fire Plans Guidelines and Safe Shutdown Manual Actions, as time permits and as necessary to aid Fire Brigade with area characteristics and aid Operations with safe shutdown actions.
- \_\_\_\_\_
7. **IF** applicable, **THEN** verify accountability with Security.
- \_\_\_\_\_
8. **IF** personnel are unaccounted for, **THEN** direct Fire Brigade Leader to search for missing personnel.

**CAUTION**

*Due to minimal Contract Medical Response Staff of one (1) individual on back shifts and weekends, manpower requirements should be monitored by the Control Room.*

- \_\_\_\_\_
9. Verify Contract Medical personnel dispatched to the vicinity of the fire scene.

**NOTE**

*Emergency phone numbers are listed in the Emergency Response Directory.*

- \_\_\_\_\_
10. Contact additional fire support, if needed.
- \_\_\_\_\_
11. **IF** off-site assistance has been requested, **THEN** inform Security of their pending arrival.
- \_\_\_\_\_
12. **IF** injuries occur or have occurred, **THEN** perform Attachment 1 of 0-ADM-028, On the Job Injuries, otherwise proceed to Step 5.2.3.

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5.2.2 Have injuries occurred which require medical assistance?

Yes/NoTime1. IF NO, THEN proceed to Step 5.2.3.2. IF YES, THEN refer to Attachment 1, Control Room Response to an Injury Requiring Medical Assistance, of 0-ADM-028, On the Job Injuries.

5.2.3 Mitigating Actions and Classification of Off-Normal Event

1. Direct initial investigative and mitigating actions to correct Off-Normal Event.

a. IF the event involves a release of oil or hazardous material to the environment, THEN perform the following:(1) Activate the Fire Brigade to perform initial response AND to determine if additional support is needed at the scene.

(2) Notify the on-shift Chemistry Technician.

(3) Notify Mechanical Maintenance to provide support for containment and cleanup.

(4) Notify the Environmental Compliance or Hazardous Materials Coordinator for response, and reportability determination. (Refer to the ERD for names and phone numbers).

(5) Refer to 0-ADM-034, Oil and Hazardous Materials Emergency Response Plan and Spill Prevention, Control and Countermeasure (SPCC) Plan.

2. IF a release (see Definitions) is in progress, THEN direct Chemistry personnel to implement 0-EPIP-20126, OFF-SITE DOSE CALCULATIONS.



Time5.2.3 (Cont'd)NOTES

- *For planned evolutions, such as Safeguards Testing, this procedure does not apply with regard to the actuation of Safeguards equipment. However, if a deviation from the planned evolution occurs, this procedure should be consulted for event classification.*
- *If simultaneous emergencies occur at the site, the Emergency Classification shall be made based on the most severe condition at the site.*
- *If conditions meeting the Emergency Classification criteria are known to have existed, but have been terminated, proceed with required classification and notification activities. An Unusual Event or Alert may be terminated by the Emergency Coordinator. A Site Area Emergency or General Emergency may only be de-escalated by the Recovery Manager. Activation of the On-site Emergency Response Facilities is not required for events that have been terminated by the responsible ERO personnel.*
- *If the event does not qualify as an Emergency, using Enclosure 1 proceed to 0-ADM-115, NOTIFICATION OF PLANT EVENTS, for further classification of event.*

3. Classify Off-Normal Event using present available information, AND declare most conservative emergency class using Enclosure 1, THEN proceed to Step Number and Page listed on the bottom of Enclosure 1.

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

5.3 Unusual EventTimeNOTE

*Prescribed Emergency Announcements may be omitted or modified as directed by the Emergency Coordinator, or his designee, to prevent alarming intruders, if security events warrant.*

5.3.1 IF an Unusual Event has been declared, THEN complete the following steps:

NOTE

*Notification Steps may be performed out of sequence in order to meet State of Florida and/or NRC notification time requirements.*

1. Document the sequence of events using the Emergency Log Book.
2. Inform or have Control Room personnel inform site personnel of the emergency via the Plant Page System, AND make one of the following announcements twice using the Page Volume Boost. [Either (a) or (b)]
  - a. IF entering into an Unusual Event, THEN make the following announcement:  
  
"Attention all personnel, attention all personnel: An Unusual Event has been declared on Unit # \_\_\_\_\_ due to (provide a brief description of initiating event). All Emergency Response Organization members remain on standby. All other personnel continue with present duties unless further instruction is given."
  - b. IF downgrading to an Unusual Event, THEN make the following announcement:

"Attention all personnel, attention all personnel: the Emergency has been downgraded to an Unusual Event."

Time5.3.1 (Cont'd)

3. **IF** there is a localized emergency (fire, high radiation, toxic gas), **THEN** perform the following:

- a. Determine assembly area for personnel evacuated from the affected area.
- b. Announce type and location, instruct personnel to stand clear, and report to the assembly area.
- c. Sound applicable alarm, if not previously done.
- d. Announce type and location, instruct personnel to stand clear and report to the assembly area.
- e. Initiate Search and Rescue as required.

**NOTE**

*If Plant Events (radiological or security threat considerations) warrant, alternate facilities and/or routes to these facilities may be necessary. Refer to Subsection 5.1, General.*

4. Direct the Shift Technical Advisor (STA) to implement 0-EPIP-20104, Emergency Response Organization Notifications/Staff Augmentation.

- a. **IF** significant public interest is expected or significant technical support is required, **THEN** perform the following:
  - (1) Identify those positions requiring activation and the desired reporting location.
  - (2) Direct the STA to initiate a partial activation of the Emergency Response Organization, using the identified positions.

0-EPIP-20101

## Duties of Emergency Coordinator

Approval Date:

5/31/00

TIME5.3.1 (Cont'd)CAUTIONS

- *Notification to the State Warning Point is required within 15 minutes of Emergency Classification.*
- *Notification to the NRCOC is required to immediately follow the State Notification and no later than one hour.*
- *Collection of Release Rate Data shall not delay State of Florida or NRC Notification.*
- *If a transitory event has occurred, notifications are still required using this procedure.*

NOTE

*If during the notification process, it becomes necessary to upgrade the emergency classification:*

- *ensure that the State Warning Point has been notified of the Emergency Declaration within 15 minutes of making the initial classification,*
- *stop the current notification process, and*
- *proceed to the steps corresponding to the new emergency classification, including notification of the new classification to the State Warning Point.*

5. IF Off-site (State and County) notification responsibilities are with the Emergency Coordinator on site, THEN complete the following steps:

- a. Complete a form similar to Attachment 1.
- b. Obtain the Emergency Coordinator's initials on the notification form prior to transmitting the information.

Time5.3.1.5 (Cont'd)NOTE

*State Warning Point may request verification call back. If requested, they will call in on the black bell phone (ringmaster) or cellular phone in the Control Room.*

- c. Notify the State Warning Point in Tallahassee AND relay information from a form similar to Attachment 1 within 15 minutes of classifying the Unusual event via one of the following:
  - (1) Hot Ring Down Telephone
  - (2) Commercial Telephone (refer to ERD)
  - (3) Cellular Phone (refer to ERD)
  - (4) ESATCOM
  - (5) Local Government Radio
- d. Complete a form similar to Attachment 2.
- e. Contact the NRCOC and relay the information from a form similar to Attachment 2 immediately after the notification of the Unusual Event to State and Counties via one of the following:
  - (1) ENS
  - (2) Commercial Telephone (refer to ERD)
  - (3) Cellular Telephone (refer to ERD)
- 6. IF continued direction of the Emergency Response Activities adversely affects Control Room Activities, THEN consider turnover of EC duties to a designated member of the Plant Management Staff.
- 7. IF EC duties have been assumed by a designated member of the Plant Management Staff in the TSC, THEN contact affected NRC, State and Local Authorities to establish communication links and determine off-site support requirements.

Time5.3.1 (Cont'd)

8. Reassess plant conditions using Enclosure 1 periodically.
9. IF upgrading Emergency Class, THEN proceed to the applicable section of this procedure, using Enclosure 1.
10. IF notification responsibilities are with the Emergency Coordinator On-site, THEN provide notifications to the State and Counties every hour, unless less frequent updates are agreed to, upon termination, or as conditions change.
- a. Complete a form similar to Attachment 1.
  - b. Obtain the Emergency Coordinator's initials on the notification form prior to transmitting the information.
  - c. Notify the following of the new information:
    - (1) State Warning Point
    - (2) Duty Call Supervisor
  - d. Complete a form similar to Attachment 2.
  - e. Notify the NRCOC of the new information via one of the following:
    - (1) ENS
    - (2) Commercial telephone (refer to ERD)
11. Determine if the emergency can be terminated using Enclosure 3, DeEscalation Guidelines.
12. IF terminating the event, THEN perform the following:
- a. Notify the Units 1 and 2 Watch Engineer that the event has been terminated.
  - b. Have the Control Room make the following announcement via the plant page system, using page boost, to notify plant personnel:  
  
"Attention all personnel, attention all personnel. The emergency situation has been terminated."

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

5.4 AlertTime**NOTE**

*Prescribed Emergency Announcements may be omitted or modified, as directed by the Emergency Coordinator, or his designee, to prevent alarming intruders if Security Events warrant.*

5.4.1 **IF** an Alert has been declared, **THEN** perform the following steps:

**NOTE**

*Notification steps may be performed out of sequence in order to meet State of Florida and/or NRC Notification time requirements.*

1. Document the sequence of events using the Emergency Log Book.

**CAUTION**

*The Emergency Coordinator shall use good judgment prior to releasing contractors from the site and clearing those owner controlled areas outside the Protected Area. Such conditions as security events, release status, release duration, plant conditions, and meteorological conditions should be evaluated prior to moving personnel.*

2. Determine the need to dismiss non-essential contract personnel from the site **AND** clear those areas outside the Protected Area.
3. **IF** a precautionary clearing of personnel outside of the Protected Area is required, **THEN** perform the following:
  - a. Inform Security to clear personnel from the following areas and implement applicable sections of Security Force Instruction (SFI) 6307:
    - (1) Girl Scout Camp
    - (2) Red Barn Area
    - (3) Beach/Boat Ramp Area
    - (4) Wellness Center

Time5.4.1.3.a (Cont'd)

- (5) Switchyard
- (6) Barge Canal
- (7) US Naval Special Warfare Group Training School
- (8) Trailer Areas and other work areas
- (9) Land Utilization

b. Contact the Watch Engineer of Units 1 and 2 AND inform them of the precautionary clearing of personnel.

4. Inform or have Control Room personnel inform site personnel of the emergency via the Plant Page System using the Page Volume Boost. [Either (a) or (b)]

a. IF entering into an Alert, THEN perform the following:

(1) Make the following announcement:

"Attention all personnel, attention all personnel: An Alert has been declared on Unit #\_\_\_\_\_ due to (provide a brief description of initiating event). All Emergency Response Organization members report to your designated Emergency response Facility. All other personnel report to your normal work location."

[The following announcement is Optional, per Substep 5.4.1.2]

"All non-essential contract personnel are dismissed for the day."

- (2) Sound the Emergency Plan Activation Alarm.
- (3) Repeat the announcement.

**CAUTION**

*RM approval is required prior to downgrading from a Site Area Emergency or General Emergency.*

b. IF Downgrading to an Alert, THEN make the following announcement twice:

"Attention all personnel, attention all personnel. The Emergency has been downgraded to an Alert."



Time5.4.1 (Cont'd)

5. **IF** there is a localized emergency (fire, high radiation, toxic gas), **THEN** perform the following:

- a. Determine an assembly area for personnel evacuate from the affected area.
- b. Announce type and location, instruct personnel to stand clear, and to report to the assembly area.
- c. Sound applicable alarm, if not previously done.
- d. Announce type and location, instruct personnel to stand clear, and to report to the assembly area.
- e. Initiate Search and Rescue, as required.

**CAUTION**

*If a significant release (process monitors off scale, or other indications) and/or security related events are in progress (intruders, bomb threat, etc.) inform emergency responders and site evacuees of the best access and egress routes to take on site to minimize hazards. During off hours, dispatch Security to route Incoming Emergency Responders away from the hazardous routes.*

**NOTE**

*If Plant Events (radiological or security threat considerations) warrant, alternate facilities and/or routes to these facilities may be necessary. Refer to Subsection 5.1, General.*

6. Direct the STA to initiate Activation of On-site Emergency Response Facilities (ERFs) per 0-EPIP-20104, Emergency Response Organization Notifications/Staff Augmentation.

Time5.4.1 (Cont'd)**CAUTIONS**

- *Notification to the State Warning Point is required within 15 minutes of emergency classification.*
- *Notification to the NRCOC is required to immediately follow the State Notification and no later than one hour.*
- *Collection of Release Rate Data shall not delay State of Florida or NRC notification.*
- *If a transitory event has occurred, notifications are still required using this procedure.*

**NOTE**

*If during the notification process, it becomes necessary to upgrade the emergency classification:*

- \_\_\_ *ensure that the State Warning Point has been notified of the Emergency Declaration within 15 minutes of making the initial classification,*
- \_\_\_ *stop the current notification process, and*
- \_\_\_ *proceed to the steps corresponding to the new emergency classification, including notification of the new classification to the State Warning Point.*

7. **IF** off-site (State and County) notification responsibilities are with the Emergency Coordinator on site, **THEN** complete the following steps:

- a. Complete a form similar to Attachment 1.
- b. Obtain the Emergency Coordinator's initials on the notification form prior to transmitting the information.

Time5.4.1.7 (Cont'd)**NOTE**

*State Warning Point may request verification call back. If requested, they will call in on the black bell phone (ringmaster) or cellular phone in the Control Room.*

- \_\_\_\_\_ c. Notify the State Warning Point in Tallahassee AND relay information from a form similar to Attachment 1 within 15 minutes of classifying the Alert via one of the following:
- (1) Hot Ring Down Telephone
  - (2) Commercial Telephone (refer to ERD)
  - (3) Cellular Telephone (refer to ERD)
  - (4) ESATCOM
  - (5) Local Government Radio
- \_\_\_\_\_ d. Complete a form similar to Attachment 2.
- \_\_\_\_\_ e. Contact the NRCOC and relay the information from a form similar to Attachment 2 immediately after the notification of the Alert to State and Counties via one of the following:
- (1) ENS
  - (2) Commercial Telephone (refer to ERD)
  - (3) Cellular Telephone (refer to ERD)

**NOTE**

*Guidance for transferring of responsibilities can be found in Enclosure 2.*

- \_\_\_\_\_ 8. IF Emergency Response Facilities (TSC/OSC) are activated, THEN consider Emergency Coordinator Transfer to TSC.
- \_\_\_\_\_ 9. IF the EOF is operational, then relinquish communication responsibilities of off-site agencies to Recovery Manager at EOF after a proper turnover/briefing.

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5.4.1 (Cont'd)

10. Reassess plant conditions using Enclosure 1 periodically.

**CAUTION**

*If the EOF is operational and the emergency has been upgraded, it is imperative that the Recovery Manager be notified concurrently with the declaration. This will ensure that the fifteen minute notification time limit is met.*

11. IF upgrading emergency classification level, THEN proceed to applicable section of this procedure using Enclosure 1 AND IF the EOF is operational, THEN promptly notify the Recovery Manager.

12. IF notification responsibilities are with the Emergency Coordinator On site, THEN provide notification to the State and Counties every hour, unless less frequent updates have been agreed to, upon termination, or as conditions change.

a. Complete a form similar to Attachment 1.

b. Obtain the Emergency Coordinator's initials on the form prior to transmitting the information.

c. Notify the following of the updated information:

(1) State Warning Point

(2) Duty Call Supervisor

d. Complete a form similar to Attachment 2.

e. Notify the NRCOC with the updated information.

(1) ENS

(2) Commercial Telephone (refer to ERD)

13. Determine if the emergency can be de-escalated or terminated, using Enclosure 3.

Time5.4.1 (Cont'd)

14. IF de-escalating or terminating the event, THEN perform one of the following:

- a. IF de-escalating, THEN return to the applicable section of this procedure using Enclosure 1.
- b. IF terminating the event, THEN perform one of the following:
  - (1) Notify the Units 1 and 2 Watch Engineer that the event has been terminated.
  - (2) Have the Control Room make the following announcement via the plant page system, using page boost, to notify plant personnel:

"Attention all personnel, attention all personnel. The emergency situation has been terminated".

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

### 5.5 Site Area Emergency

Time

**NOTE**

*Prescribed Emergency Announcements may be omitted or modified as directed by the Emergency Coordinator or his designee to prevent alarming intruders if security events warrant.*

5.5.1 **IF** a Site Area Emergency has been declared, **THEN** perform the following steps:

**CAUTION**

*De-escalation from Site Area Emergency must be done in concurrence with the RM.*

**NOTE**

*Notification steps may be performed out of sequence in order to meet State of Florida and/or NRC notification time requirements.*

1. Document sequence of events using the Emergency Log Book.

Time5.5.1 (Cont'd)

2. Inform, or have the Control Room inform site personnel of the emergency via Plant Page System using the Page Volume Boost [Either (a) or (b)]:

**CAUTION**

*If a release is in progress, inform emergency responders of access routes to Emergency Response Facilities. During off hours, dispatch security to route incoming emergency responders away from hazardous routes.*

- a. **IF** ENTERING into a Site Area Emergency, **THEN** perform the following:

- (1) Make the following announcement:

"Attention all personnel; attention all personnel. A Site Area Emergency has been declared on Unit #\_\_\_\_\_ due to (provide brief description of initiating event). All Emergency Response Organization members report to your designated Emergency Response Facility."

- (2) **IF** not previously performed, **THEN** sound the Emergency Plan Activation Alarm.

- (3) Repeat the announcement.

**CAUTION**

*RM approval is required prior to downgrading from a Site Area Emergency.*

- b. **IF** downgrading to a Site Area Emergency, **THEN** make the following announcement twice:

"Attention all personnel, Attention all personnel. The emergency has been downgraded to Site Area Emergency."

Time

5.5.1 (Cont'd)

**NOTE**

*If winds are from 90° to 146°, consider the use of the alternate evacuation route.*

3. Consider plant and radiological conditions as they relate to the emergency regarding site evacuation.
  - a. Potential for release
  - b. Duration of release
  - c. Direction of release
  - d. Meteorological conditions
  - e. Plant conditions (need for supplemental emergency response personnel).
  - f. Security threats to evacuees.

**CAUTION**

*As conditions warrant, the Emergency Coordinator may delay, postpone, or make special requirements on the evacuation (Reference Step 5.1.17). If large doses will be received during an evacuation, it may be more effective to shelter non-essential personnel on site.*

4. Implement an Owner Controlled Area Evacuation if no significant hazards exist which may threaten evacuees.
  - a. **IF** the TSC Health Physics Supervisor is available, **THEN** discuss release status, release duration, and wind direction to determine applicable evacuation route and Off-site Assembly Area.
  - b. Notify the Security Shift Supervisor for an evacuation of the Owner Controlled Area, including non-essential personnel from the Protected Area, **AND** instruct them to implement 0-EPIP-20110, CRITERIA FOR AND CONDUCT OF AN OWNER CONTROLLED AREA EVACUATION, and Security Force Instruction (SFI) 6307, EMERGENCY EVACUATION AND ACCOUNTABILITY.



Time5.5.1.4 (Cont'd)

- \_\_\_\_\_ c. Notify the Watch Engineer of Units 1 and 2 of the Site Evacuation AND instruct them to initiate a roster of personnel left in the fossil units for shutdown of the fossil units.
- \_\_\_\_\_ d. Inform, or have the Control Room inform, site personnel via Plant Page System AND complete the following steps:

**CAUTION**

*If a significant release (process monitors off scale or other indications) and/or security related (intruders, bomb threat, etc.) events are in progress, inform emergency responders and site evacuees of the best access and egress routes to take to/from site to minimize hazards. During off hours, dispatch Security to route incoming emergency responders away from hazardous routes.*

- (1) Make the following announcement using Page Volume Boost:

"Attention all personnel. Attention all personnel. An Owner Controlled Area Evacuation has been implemented. All Emergency Response Organization members report to your designated Emergency Response Facility. All other personnel evacuate to (designated off-site assembly area) by (route to off-site assembly area)."

- (2) Sound the Site Evacuation Alarm.

- (3) Make the following announcement using Page Volume Boost:

"Attention all personnel. Attention all personnel. An Owner Controlled Area Evacuation has been implemented. All Emergency Response Organization members report to your designated Emergency Response Facility. All other personnel evacuate to (designated off-site assembly area) by (route to off-site assembly area)."

Time5.5.1 (Cont'd)

5. Notify the TSC Security Supervisor (Security Shift Supervisor) to:

- a. Discuss the potential for the suspension of all or some safeguards. (Reference Step 5.1.18)
- b. Provide accountability information as needed (Names and Badge Numbers).

6. IF there is a localized emergency (fire, high radiation, toxic gas), THEN perform the following:

- a. Determine an assembly area for personnel evacuated from the affected area.
- b. Announce type and location, instruct personnel to stand clear and report to the designated assembly area.
- c. IF not previously performed, THEN sound applicable alarm.
- d. Announce type and location, instruct personnel to stand clear and report to the designated assembly area.
- e. Initiate Search and Rescue as required.

7. IF the On-site Emergency Response Facilities (ERFs) are operational, AND Emergency Coordinator responsibilities have not transferred, THEN consider Emergency Coordinator transfer to TSC.

**NOTE**

*If plant events (radiological or security threat considerations), warrant, alternate facilities and/or routes to these facilities may be necessary. Refer to Subsection 5.1, General.*

8. IF not previously performed, THEN instruct the STA to initiate activation of on-site Emergency Response Facilities (ERF) using 0-EPIP-20104, EMERGENCY RESPONSE ORGANIZATION NOTIFICATIONS/ STAFF AUGMENTATION.

9. Update on-site emergency responders of the emergency conditions.

Time5.5.1 (Cont'd)

10. **IF** the EOF is operational, **THEN** relinquish communication responsibilities to off-site agencies to the Recovery Manager at the EOF.

**CAUTIONS**

- *Notification to the State Warning Point is required within 15 minutes of the emergency classification.*
- *Notification to the NRCOC is required to immediately follow the State Notification and no later than one hour.*
- *Collection of Release Rate Data shall not delay the State of Florida or NRC Notifications.*
- *If a transitory event has occurred, notifications are still required, using this procedure.*

**NOTE**

*If during the notification process, it becomes necessary to upgrade the emergency classification,*

*\_\_\_ ensure that the State Warning Point has been notified of the emergency declaration within 15 minutes of making the initial classification,*

*\_\_\_ stop the current notification process, and*

*\_\_\_ proceed to the steps corresponding to the new emergency classification, including notification of the new classification to the State Warning Point.*

11. **IF** off-site (State and County) notification responsibilities are with the Emergency Coordinator on site, **THEN** complete the following steps:

- a. Complete a form similar to Attachment 1.
- b. Obtain the Emergency Coordinator initials on the form prior to transmitting the information.

Time5.5.1.11 (Cont'd)NOTE

*State Warning Point may request verification call back. If requested, they will call in on the black bell phone (ringmaster) or cellular phone in the Control Room.*

- \_\_\_\_\_ c. Notify the State Warning Point in Tallahassee and relay information from a form similar to Attachment 1 within 15 minutes of classifying the Site Area Emergency via one of the following:
- (1) Hot Ring Down Telephone
  - (2) Commercial Telephone (refer to ERD)
  - (3) Cellular Phone (refer to ERD)
  - (4) ESATCOM
  - (5) Local Government Radio
- \_\_\_\_\_ d. Complete a form similar to Attachment 2.
- \_\_\_\_\_ e. Contact the NRCOC and relay the information from a form similar to Attachment 2 immediately after the notification of the Site Area Emergency to the State and Counties via one of the following:
- (1) ENS
  - (2) Commercial Telephone (refer to ERD)
  - (3) Cellular Telephone (refer to ERD)
- \_\_\_\_\_ 12. IF the On-site Emergency Response Facilities (TSC/OSC) are operational, THEN consider Emergency Coordinator transfer to the TSC.
- \_\_\_\_\_ 13. IF the EOF is operational, THEN relinquish communication responsibilities with off-site agencies to the Recovery Manager at the EOF.

Time5.5.1 (Cont'd)**NOTE**

*Security has thirty minutes to provide a list of names of personnel not yet accounted for inside the Protected Area.*

14. Determine the status of the owner Controlled Area Evacuation.

15. Reassess plant conditions using Enclosure 1 AND Attachment 3 periodically.

**CAUTION**

*If the EOF is operational and the emergency has been upgraded, it is imperative that the Recovery Manager be notified concurrently with the declaration. This will ensure that the 15 minute notification time limit is not missed.*

16. IF upgrading Emergency Classification, THEN proceed to applicable section of this procedure, using Enclosure 1 AND IF the EOF is operational, THEN notify the Recovery Manager promptly.

17. IF notification responsibilities are with the Emergency Coordinator On-site, THEN perform the following every hour, upon termination, or as conditions change:

- a. Complete a form similar to Attachment 1.
- b. The Emergency Coordinator shall initial the form prior to transmitting the information to verify Emergency Coordinator approval.
- c. Notify the following of the new information:
  - (1) State Warning Point
  - (2) Duty Call Supervisor
- d. Complete a form similar to Attachment 2.
- e. Notify the NRCOC with the new information.

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5.5.1 (Cont'd)

- \_\_\_\_\_ 18. Using Enclosure 3 determine if the emergency can be de-escalated or terminated.
- \_\_\_\_\_ 19. IF conditions warrant, THEN recommend de-escalation of the Site Area Emergency to RM. (Any de-escalation from Site Area Emergency shall be determined by the RM.)
- \_\_\_\_\_ 20. IF de-escalating or terminating the event, THEN perform one of the following:
- a. IF de-escalating, THEN return to the applicable section of this procedure using Enclosure 1.
  - b. IF terminating the event, THEN perform one of the following:
    - (1) Notify the Units 1 and 2 Watch Engineer that the event has been terminated.
    - (2) Have the Control Room make the following announcement via the plant page system, using page boost, to notify plant personnel:  
  
"Attention all personnel, attention all personnel. The emergency situation has been terminated.

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

## 5.6 General Emergency

### Time

#### NOTE

*Prescribed emergency announcements may be omitted or modified as directed by the Emergency Coordinator or his designee, to prevent alarming intruders if security events warrant.*

- 5.6.1 **IF** a General Emergency has been declared, **THEN** complete the following steps:

#### CAUTION

*De-escalation from a General Emergency must be done in concurrence with the RM.*

#### NOTE

*Notification steps may be performed out of sequence in order to meet State of Florida and/or NRC notification time requirements.*

1. Document sequence of events using the Emergency Log Book.

#### CAUTION

*If a release or security events are in progress, inform emergency responders of access routes to Emergency Response Facilities. During off hours, dispatch Security to route incoming emergency responders away from hazardous routes.*

2. Inform, or have the Control Room inform, site personnel of the emergency via Plant Page System using Page Volume Boost.

- a. Make the following announcement:

"Attention all personnel. Attention all personnel. A General Emergency has been declared on Unit #\_\_\_\_\_ due to (provide brief description of initiating event). All Emergency Response Organization members report to your designated Emergency Response Facility."

Time5.6.1.2 (Cont'd)

- b. IF not previously performed, THEN sound the Emergency Plan Activation Alarm.
- c. Repeat the announcement.

**CAUTIONS**

- *RM approval is required prior to downgrading from a General Emergency.*
- *Radiological, security threats and plant conditions shall also be considered when preparing to evacuate personnel. If large doses will be received during an evacuation, or if security threats jeopardize evacuation routes, it may be more effective to shelter non-essential personnel on site. Also, take into consideration the duration of the release, plant conditions, potential for release, and meteorological conditions.*

**NOTE**

*If winds are from 90° to 146°, consider the use of the alternate evacuation route.*

3. Implement an Owner Controlled Area Evacuation if no significant hazards exist which may threaten evacuees.
  - a. IF the TSC Health Physics Supervisor is available, THEN discuss release status, release duration, and wind direction to determine applicable evacuation route and off-site Assembly Area.
  - b. Notify the Security Shift Supervisor for an evacuation of the Owner Controlled Area, including non-essential personnel from the Protected Area, and instruct them to implement 0-EPIP-20110, CRITERIA FOR AND CONDUCT OF AN OWNER CONTROLLED AREA EVACUATION, and Security Force Instruction (SFI) 6307, EMERGENCY EVACUATION AND ACCOUNTABILITY.
  - c. Notify the Watch Engineer of Units 1 and 2 of the Site Evacuation AND instruct them to initiate a roster of personnel left in the fossil units for shutdown of the fossil units.



Time5.6.1.3 (Cont'd)**CAUTION**

*If a significant release (Process Monitors are off scale or other indicators) and/or security related events (Intruders, bomb threat, etc.) are in progress, inform emergency responders and site evacuees of the best access and egress routes to take from the site to minimize hazards. During off hours, dispatch Security to route incoming emergency responders away from hazardous routes.*

- \_\_\_\_\_
- d. Inform, or have Control Room personnel inform, site personnel via the Plant Page System and complete the following:

- (1) Make the following announcement using Page Volume Boost:

"Attention all personnel. Attention all personnel. An Owner Controlled Area Evacuation has been implemented. All Emergency Response Organization members report to your designated Emergency Response Facility. All other personnel evacuate to (designated Off-site Assemble Area) by (route to Off-site Assembly Area)".

- \_\_\_\_\_
4. Notify the TSC Security Supervisors (Security Shift Supervisor) to:

- \_\_\_\_\_
- a. Discuss the potential for the suspension of all or some safeguards (Reference Step 5.1.18).
- \_\_\_\_\_
- b. Provide accountability information as needed (names and badge numbers).

- \_\_\_\_\_
5. **IF** there is a localized emergency (fire, high radiation, toxic gas) **THEN** perform the following:

- \_\_\_\_\_
- a. Determine an assembly area for personnel evacuated from the affected area.
- \_\_\_\_\_
- b. Announce its type and location, instruct personnel to stand clear and report to the designated assembly area.
- \_\_\_\_\_
- c. Sound applicable alarm, if not previously done.
- \_\_\_\_\_
- d. Announce its type and location, instruct personnel to stand clear and report to the designated assembly area.
- \_\_\_\_\_
- e. Initiate Search and rescue as required.

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5.6.1 (Cont'd)

6. **IF** the On-site Emergency Response Facilities are operational, **THEN** consider Emergency Coordinator transfer to TSC.

**NOTE**

*If plant events (radiological or security threat considerations) warrant, alternate facilities and/or routes to these facilities may be necessary. Refer to precautions.*

7. **IF** not previously performed, **THEN** instruct STA to initiate activation of the On-site Emergency Response Facilities (ERF) using 0-EPIP-20104, EMERGENCY RESPONSE ORGANIZATION NOTIFICATIONS/ STAFF AUGMENTATION.
8. Update on-site emergency responders of the emergency conditions.
9. **IF** the EOF is operational, **THEN** relinquish communication responsibilities with off-site agencies to the Recovery Manager at the EOF.

Time5.6.1 (Cont'd)**CAUTIONS**

- *Notification to the State Warning Point is required within 15 minutes of emergency classification.*
- *Notification to the NRCOC is required to immediately follow the State Notification and no later than one hour.*
- *Collection of Release Rate Data shall not delay State of Florida or NRC Notifications.*
- *If a transitory event has occurred, notifications are still required using this procedure.*

**NOTE**

*If during the notification process, it becomes necessary to upgrade the emergency classification,*

- \_\_\_ ensure that the State Warning Point has been notified of the Emergency Declaration within fifteen minutes of making the initial classification,*
- \_\_\_ stop the current notification process, and*
- \_\_\_ proceed to the steps corresponding to the new Emergency Classification, including notification of the new classification to the State Warning Point.*

10. **IF** off-site (State and County) notification responsibilities are with the Emergency Coordinator on site, **THEN** complete the following steps:

- a. Complete a form similar to Attachment 1.
- b. Obtain the Emergency Coordinator's initials on the notification form prior to transmitting the information.

Time5.6.1.10 (Cont'd)NOTE

*State Warning Point may request verification call back. If requested, they will call in on the black bell phone (Ringmaster) or cellular phone in the Control Room.*

- \_\_\_\_\_
- c. Notify State Warning Point in Tallahassee AND relay information from a form similar to Attachment 1 within 15 minutes of classifying the General Emergency via one of the following:
- (1) Hot Ring Down Telephone
  - (2) Commercial Telephone (refer to ERD)
  - (3) Cellular Phone (refer to ERD)
  - (4) ESATCOM
  - (5) Local Government Radio
- \_\_\_\_\_
- d. Complete a form similar to Attachment 2.
- \_\_\_\_\_
- e. Contact the NRCOC AND relay the information from a form similar to Attachment 2 immediately after the notification of the General Emergency to State and Counties via one of the following:
- (1) ENS
  - (2) Commercial Telephone (refer to ERD)
  - (3) Cellular Telephone (refer to ERD)
- \_\_\_\_\_
11. IF the On-site Emergency Response Facilities (TSC/OSC) are operational, THEN consider Emergency Coordinator transfer to TSC.

Time5.6.1 (Cont'd)NOTES

- Any de-escalation from General Emergency shall be determined by the RM.
- Security has 30 minutes to provide a list of names of personnel not yet accounted for inside the Protected Area.

12. IF not previously performed, THEN determine the status of the Owner Controlled Area Evacuation.

13. Reassess plant conditions against Enclosure 1 AND Attachment 3 periodically.

14. IF notification responsibilities are with the Emergency Coordinator on-site, THEN provide notifications to the State and Counties every hour, upon termination, or as conditions change:

- a. Complete a form similar to Attachment 1.
- b. Obtain the Emergency Coordinator's initials on the notification form prior to transmitting the information.
- c. Notify the following of the new information.
  - (1) State Warning Point
  - (2) Duty Call Supervisor
- d. Complete a form similar to Attachment 2.
- e. Notify the NRCOC with the new information.

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Time

5.6.1 (Cont'd)

15. Using Enclosure 3 determine if the emergency can be de-escalated or terminated.

NOTE

*Any de-escalation from General Emergency shall be determined by the RM.*

16. IF conditions warrant, THEN recommend de-escalation from General Emergency to the RM.

17. IF de-escalating or terminating the event, THEN perform one of the following:

a. IF de-escalating, THEN return to the applicable section of this procedure using Enclosure 1.

b. IF terminating the event, THEN perform one of the following:

(1) Notify the Units 1 and 2 Watch Engineer that the event has been terminated.

(2) Have the Control Room make the following announcement via the plant page system, using page boost, to notify plant personnel:

"Attention all personnel, attention all personnel. The emergency situation has been terminated.

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

**END OF TEXT**

**ENCLOSURE 1**  
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**EMERGENCY CLASSIFICATION TABLE**

<b>1. Primary Leakage/LOCA</b>			
UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
Plant in Mode 1-2-3-4 <p style="text-align: center;"><b>AND</b></p> Either A or B: A. RCS Leakage <b>GREATER THAN 10 GPM</b> as indicated by: 1) Control Room observation <p style="text-align: center;"><b>OR</b></p> 2) Inventory balance calculation <p style="text-align: center;"><b>OR</b></p> 3) Field observation <p style="text-align: center;"><b>OR</b></p> 4) Emergency Coordinator judgment ..... B. Failure of any primary system safety or relief valve to close resulting in an uncontrolled RCS depressurization.	Plant in Mode 1-2-3-4 <p style="text-align: center;"><b>AND</b></p> RCS leakage greater than 50 gpm <p style="text-align: center;"><b>AND</b></p> RCS leakage within available charging pump capacity  <b>CAUTION:</b> This section should not be used for events involving only a steam generator tube leak/rupture, or only a faulted/ruptured steam generator.	Plant in Mode 1-2-3-4 <p style="text-align: center;"><b>AND</b></p> RCS leakage greater than 50 gpm <p style="text-align: center;"><b>AND</b></p> RCS leakage greater than available charging pump capacity  <b>CAUTION:</b> This section should not be used for events involving only a steam generator tube leak/rupture, or only a faulted/ruptured steam generator.	Either A or B: ..... A. RCS leakage greater than 50 gpm <p style="text-align: center;"><b>AND</b></p> RCS leakage greater than available charging pump capacity <p style="text-align: center;"><b>AND</b></p> Containment pressure greater than 20 psig  <b>CAUTION:</b> This section should not be used for events involving only a steam generator tube leak/rupture, or only a faulted/ ruptured steam generator. ..... B. Plant in Mode 1, 2, 3, 4, <p style="text-align: center;"><b>AND</b></p> RCS leakage greater than 50 gpm <p style="text-align: center;"><b>AND</b></p> RCS leakage greater than available charging pump capacity <p style="text-align: center;"><b>AND</b></p> Loss of containment integrity which provides a flowpath to the environment.  <b>CAUTION:</b> This section should not be used for events involving only a steam generator tube leak/rupture, or only a faulted/ruptured steam generator ..... <b>CAUTION:</b> Consult Attachment 3 for required Protective Action Recommendations.
<b>Possible Control Room Indicators</b>			
TI-465, 467, 469 TEC Flow Indicators	Charging/Letdown Flow Mismatch	RCS pressure Containment Pressure ARMS Charging/Letdown Flow Mismatch	RCS pressure Containment Pressure PRMS R-14
Complete Actions listed in Subsection 5.3 Page 20	Complete Actions listed in Subsection 5.4 Page 25	Complete Actions listed in Subsection 5.5 Page 32	Complete Actions listed in Subsection 5.6 Page 41

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**EMERGENCY CLASSIFICATION TABLE**

**2. Steam Generator Tube Leak/Rupture**

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<p>Either A or B:</p> <p>A. Greater than 500 gpd steam generator tube leakage to any one steam generator per Technical Specification 3.4.6.2, Reactor Coolant System</p> <p>-----</p> <p>B. Greater than 1 gpm total steam generator tube leakage per Technical Specification 3.4.6.2, Reactor Coolant System</p>	<p>Either A or B:</p> <p>A. Confirmed steam generator tube leakage greater than 50 gpm <b>AND</b> Steam generator tube leakage within available charging pump capacity <b>AND</b> Loss of off-site power</p> <p>-----</p> <p>B. Steam generator tube leakage greater than available charging pump capacity.</p>	<p>Steam generator tube leakage greater than available charging pump capacity <b>AND</b> Loss of offsite power</p> <p><b>CAUTION:</b> Consult Attachment 3 for possible Protective Action Recommendations</p>	
<b>Possible Control Room Indicators</b>			
PRMS R-15 PRMS R-19	PRMS R-15 PRMS R-19 Charging/Letdown Flow Mismatch	PRMS R-15 PRMS R-19 Charging/Letdown Flow Mismatch	
Complete Actions listed in Subsection 5.3 Page 20	Complete Actions listed in Subsection 5.4 Page 25	Complete Actions listed in Subsection 5.5 Page 32	Complete Actions listed in Subsection 5.6 Page 41



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## EMERGENCY CLASSIFICATION TABLE

## 3. Loss of Secondary Coolant

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<p>Either A or B:</p> <p>A. Steamline or feedline break which results in Safety Injection actuation.</p> <p>.....</p> <p>B. Failure of a steam generator safety or steam dump to atmosphere valve to close resulting in uncontrolled secondary depressurization.</p>	<p>Steamline or feedline break which results in Safety Injection actuation <b>AND</b></p> <p>Evidence of significant (greater than 10 gpm) steam generator tube leakage in the affected steam generator.</p>	<p>Steamline or feedline break which results in Safety Injection actuation <b>AND</b></p> <p>Confirmed RCS DEQ I-131 activity greater than or equal to 300 <math>\mu\text{Ci/gm}</math> <b>AND</b></p> <p>Confirmed steam generator tube leakage greater than 50 gpm in the affected steam generator</p> <p><b>CAUTION:</b> Consult Attachment 3 for possible Protective Action Recommendations</p>	
Possible Control Room Indicators			
	<p>PRMS R-15 PRMS R-19 Charging/Letdown Flow Mismatch</p>	<p>PRMS R-15 PRMS R-19 Charging/Letdown Flow Mismatch</p>	
Complete Actions listed in Subsection 5.3 Page 20	Complete Actions listed in Subsection 5.4 Page 25	Complete Actions listed in Subsection 5.5 Page 32	Complete Actions listed in Subsection 5.6 Page 41

## ENCLOSURE 1

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## EMERGENCY CLASSIFICATION TABLE

4. Fuel Handling Accident			
UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
	<p>A spent fuel element has been dropped or damaged</p> <p><b>AND</b></p> <p>Release of radioactivity from the damaged spent fuel element has been detected.</p>	<p>Either A, B or C:</p> <p>A. Major damage to one or more spent fuel elements has occurred</p> <p><b>AND</b></p> <p>Affected area radiation monitors are greater than 10<sup>6</sup> mR/hr.</p> <p>.....</p> <p>B. Major damage to one or more spent fuel elements has occurred</p> <p><b>AND</b></p> <p>Containment radiation levels greater than 1.3 E4 Rem/hr</p> <p>.....</p> <p>C. Major damage to one or more spent fuel elements due to water level being below top of spent fuel.</p>	
Possible Control Room Indicators			
	ARMS R-2, 5, 7, 8, 19, 21, 22 PRMS R-12, 14	PRMS R-2, 5, 7, 8, 19, 21, 22 PRMS R-12, 14 SFP Level Indication RI-6311A RI-6311B	
Complete Actions listed in Subsection 5.3 Page 20	Complete Actions listed in Subsection 5.4 Page 25	Complete Actions listed in Subsection 5.5 Page 32	Complete Actions listed in Subsection 5.6 Page 41

## ENCLOSURE 1

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## EMERGENCY CLASSIFICATION TABLE

## 5. Loss of Safe Shutdown Functions/ATWS

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
	<p>Either A, B, C or D:</p> <p>A. Reactor critical <b>AND</b> Failure of the Reactor Protection System to initiate a trip signal when a trip setpoint has been exceeded.</p> <p>-----</p> <p>B. Reactor critical <b>AND</b> Reactor fails to trip on automatic signal</p> <p>-----</p> <p>C. Reactor critical <b>AND</b> Reactor fails to trip on manual signal</p> <p>-----</p> <p>D. RCS temperature increasing due to loss of decay heat removal capability from all of the following:</p> <p>1) RHR System <b>AND</b> 2) Forced RCS circulation <b>AND</b> 3) Natural RCS circulation</p>	<p>Either A, B, C or D:</p> <p>A. Inability to bring the reactor subcritical with control rods</p> <p>-----</p> <p>B. Plant in Mode 1-2-3 <b>AND</b> Loss of steam release capability from all of the following:</p> <p>1) Condenser steam dumps <b>AND</b> 2) Atmospheric steam dumps <b>AND</b> 3) All steam generator safeties</p> <p>-----</p> <p>C. Plant in Mode 1-2-3 <b>AND</b> Loss of secondary heat sink has occurred <b>AND</b> RCS bleed and feed is required.</p> <p>-----</p> <p>D. Plant in Mode 1-2-3 <b>AND</b> RCS injection capability has been lost from:</p> <p>1) Charging pumps <b>AND</b> 2) High-head SI pumps</p> <p>except due to loss of all AC power. Refer to Section 10, Loss of Power Conditions</p>	<p>Either A or B:</p> <p>A. Inability to bring the reactor subcritical <b>AND</b> RCS pressure greater than 2485 psig.</p> <p>-----</p> <p>B. Inability to bring the reactor subcritical <b>AND</b> Containment pressure greater than or equal to 4 psig.</p> <p><b>CAUTION:</b> Consult Attachment 3 for required Protective Action Recommendations.</p>
Possible Control Room Indicators			
Complete Actions listed in Subsection 5.3 Page 20	Complete Actions listed in Subsection 5.4 Page 25	Complete Actions listed in Subsection 5.5 Page 32	Complete Actions listed in Subsection 5.6 Page 41

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## ENCLOSURE 1

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## EMERGENCY CLASSIFICATION TABLE

## 6. Fuel Element Failure

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
RCS activity requiring plant shutdown or cooldown per Technical Specification 3.4.8.	<p>Either A, B or C:</p> <p>A. Confirmed RCS DEQ I-131 activity greater than or equal to 300 <math>\mu</math>Ci/gm.</p> <p>.....</p> <p>B. An increase of greater than 1% fuel failure in 30 minutes.</p> <p>.....</p> <p>C. Total fuel failure of 5%.</p>	<p>Fuel element failure as indicated by A, B, or C:</p> <p>A. Confirmed RCS DEQ I-131 activity greater than or equal to 300 <math>\mu</math>Ci/gm.</p> <p><u>AND</u></p> <p>RCS T<sub>in</sub> greater than 620°F.</p> <p>.....</p> <p>B. Confirmed RCS DEQ I-131 activity greater than or equal to 300 <math>\mu</math>Ci/gm.</p> <p><u>AND</u></p> <p>Core exit thermocouples greater than 700°F.</p> <p>.....</p> <p>C. Containment high range radiation monitor reading greater than 1.3 E4 Rem/hr.</p>	<p>Fuel element failure as defined in Site Area Emergency of this section</p> <p><u>AND</u></p> <p>Any of the following is imminent or in progress:</p> <p>a) LOCA with loss of containment cooling</p> <p><u>OR</u></p> <p>b) LOCA with loss of containment integrity which provides a flowpath to the environment</p> <p><u>OR</u></p> <p>c) Steam generator tube rupture with unisolable flowpath from the ruptured steam generator to the environment.</p> <p><b>CAUTION:</b> Consult Attachment 3 for required Protective Action Recommendations.</p>
Possible Control Room Indicators			
	PRMS R-20 ARMS R-1 through R-6	Core Exit Thermocouples RI-6311A RI-6311B	
Complete Actions listed in Subsection 5.3 Page 20	Complete Actions listed in Subsection 5.4 Page 25	Complete Actions listed in Subsection 5.5 Page 32	Complete Actions listed in Subsection 5.6 Page 41

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**EMERGENCY CLASSIFICATION TABLE**

**7. Uncontrolled Effluent Release**

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<p>A release to the Unrestricted Area has occurred or is in progress which exceeds either A or B:</p> <p>A. ODCM limits for gaseous release (Control 3.2) per off-site dose estimates performed in accordance with 0-EPIP-20126, Off-site Dose Calculations.</p> <p>.....</p> <p>B. ODCM limits for liquid release (Control 2.3).</p> <p>NOTE: Alarm Actuation does not in itself constitute exceeding ODCM limits.</p>	<p>A release to the Unrestricted Area has occurred or is in progress which exceeds either A or B:</p> <p>A. Ten times ODCM limits for gaseous release (Control 3.2) per off-site dose estimates performed in accordance with 0-EPIP-20126, Off-site Dose Calculations.</p> <p>.....</p> <p>B. Ten times ODCM limits for liquid release (Control 2.3).</p> <p>NOTE: Alarm Actuation does not in itself constitute exceeding ODCM limits.</p>	<p>Performance of 0-EPIP-20126, Off-site Dose Calculation or off-site surveys indicate site boundary exposure levels have been exceeded as indicated by either A, B, C, or D:</p> <p>A. greater than or equal to 50 mrem/hr total dose rate for 1/2 hour</p> <p>.....</p> <p>B. greater than or equal to 250 mrem/hr to the thyroid for 1/2 hour</p> <p>.....</p> <p>C. greater than or equal to 500 mrem/hr total dose rate for 2 minutes</p> <p>.....</p> <p>D. greater than or equal to 2500 mrem/hr to the thyroid for 2 minutes</p> <p>NOTE: Site boundary equals 1 mile radius from affected unit.</p> <p>CAUTION: Consult Attachment 3 for possible Protective Action Recommendations.</p>	<p>Performance of 0-EPIP-20126, Off-site Dose Calculation or off-site surveys indicate site boundary exposure levels have been exceeded as indicated by either A, B, C, or D:</p> <p>A. greater than or equal to 1000 mrem/hr total dose rate</p> <p>.....</p> <p>B. greater than or equal to 1000 mrem total dose (TEDE)</p> <p>.....</p> <p>C. greater than or equal to 5000 mrem/hr to the thyroid</p> <p>.....</p> <p>D. greater than or equal to 5000 mrem thyroid dose (CDE)</p> <p>NOTE: Site boundary equals 1 mile radius from affected unit.</p> <p>CAUTION: Consult Attachment 3 for required Protective Action Recommendations.</p>
<b>Possible Control Room Indicators</b>			
Complete Actions listed in Subsection 5.3 Page 20	Complete Actions listed in Subsection 5.4 Page 25	Complete Actions listed in Subsection 5.5 Page 32	Complete Actions listed in Subsection 5.6 Page 41

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**EMERGENCY CLASSIFICATION TABLE**

8. High Radiation Levels in Plant			
UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
	<p>Severe loss of control of radioactive materials as indicated by either A, B or C:</p> <p>A. Unexpected valid area monitor alarm from an undeterminable source with meter greater than 10<sup>2</sup> mR/hr.</p> <p style="text-align: center;">.....</p> <p>B. Unexpected plant iodine or particulate airborne concentration greater than 1000 DAC as per 10 CFR 20 Appendix B, Table 1.</p> <p style="text-align: center;">.....</p> <p>C. Unexpected direct radiation dose rate reading or unexpected airborne radioactivity concentration from an undetermined source in excess of 1000 times normal levels.</p>	<p>Containment High Range Radiation Monitor reading greater than 1.3 E4 Rem/hr.</p> <p><b>NOTE:</b> Direct Chemistry to perform offsite dose estimates per 0-EPIP-20126, Off-site Dose Calculations. (See Section 7, Uncontrolled Effluent Release)</p> <p><b>CAUTION:</b> Consult Attachment 3 for possible Protective Action Recommendations.</p>	<p>Containment High Range Radiation Monitor reading greater than 1.3 E5 Rem/hr.</p> <p><b>NOTE:</b> :Direct Chemistry to perform offsite dose estimates per 0-EPIP- 20126, Off-site Dose Calculations. (See Section 7, Uncontrolled Effluent Release)</p> <p><b>CAUTION:</b> Consult Attachment 3 for required Protective Action Recommendations.</p>
<b>Possible Control Room Indicators</b>			
	Area Radiation Monitors	RI-6311A RI-6311B	RI-6311A RI-6311B
Complete Actions listed in Subsection 5.3 Page 20	Complete Actions listed in Subsection 5.4 Page 25	Complete Actions listed in Subsection 5.5 Page 32	Complete Actions listed in Subsection 5.6 Page 41

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**EMERGENCY CLASSIFICATION TABLE**

9. Other Plant Conditions That Could Lead To Substantial Core Damage			
UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
			<p>Either A or B:</p> <p>A. Potential core damage indicated by all of the following:</p> <ul style="list-style-type: none"> <li>1) Known LOCA greater than available charging pump capacity <b>AND</b></li> <li>2) Failure of ECCS to deliver flow to the core <b>AND</b></li> <li>3) Containment High Range Radiation Monitor reading greater than 1.3 E4 Rem/hr.</li> </ul> <p>-----</p> <p>B. Potential core damage indicated by all of the following:</p> <ul style="list-style-type: none"> <li>1) Loss of secondary heat sink <b>AND</b></li> <li>2) RCS bleed and feed required <b>AND</b></li> <li>3) No high-head SI flow available <b>AND</b></li> <li>4) No RHR flow for greater than 30 minutes <b>AND</b></li> <li>5) No AFW flow for greater than 30 minutes</li> </ul> <p><b>CAUTION:</b> Consult Attachment 3 for required Protective Action Recommendations.</p>
Possible Control Room Indicators			
Complete Actions listed in Subsection 5.3 Page 20	Complete Actions listed in Subsection 5.4 Page 25	Complete Actions listed in Subsection 5.5 Page 32	Complete Actions listed in Subsection 5.6 Page 41

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## EMERGENCY CLASSIFICATION TABLE

10. Loss Of Power Conditions			
UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<p>Either A or B:</p> <p>A. Loss of offsite power to the:</p> <p>1) A 4KV bus</p> <p style="text-align: center;"><b>AND</b></p> <p>2) B 4KV bus</p> <p>.....</p> <p>B. Loss of on-site power capability as indicated by:</p> <p>1) Loss of capability to power at least one vital 4KV bus from <u>any</u> of the four available emergency diesel generators.</p>	<p>Either A or B:</p> <p>A. Loss of all vital on-site DC power.</p> <p>.....</p> <p>B. Loss of offsite power</p> <p style="text-align: center;"><b>AND</b></p> <p>Both associated emergency diesel generators fail to energize their associated 4KV buses.</p> <p><b>NOTE:</b> Refer to Section 5, Loss of Safe Shutdown Function</p>	<p>Either A, B or C with fuel in the Reactor Vessel</p> <p>A. Loss of all A/C power for greater than 15 minutes.</p> <p>.....</p> <p>B. Loss of all vital on-site DC power for greater than 15 minutes.</p> <p>.....</p> <p>C. Emergency Coordinator leaves Control Room within the first 15 minutes of a loss of all A/C <u>OR</u> DC power.</p>	<p>The following situation exists for greater than 1 hr with fuel in the Reactor Vessel.</p> <p>a) Loss of all A/C power</p> <p style="text-align: center;"><b>AND</b></p> <p>b) Loss of all feedwater capability.</p> <p><b>CAUTION:</b> Consult Attachment 3 for required Protective Action Recommendations.</p>
Possible Control Room Indicators			
4KV Bus Voltage 4KV Bus Amps			
Complete Actions listed in Subsection 5.3 Page 20	Complete Actions listed in Subsection 5.4 Page 25	Complete Actions listed in Subsection 5.5 Page 32	Complete Actions listed in Subsection 5.6 Page 41



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**EMERGENCY CLASSIFICATION TABLE**

<b>11. Loss Of Assessment Functions</b>			
<b>UNUSUAL EVENT</b>	<b>ALERT</b>	<b>SITE AREA EMERGENCY</b>	<b>GENERAL EMERGENCY</b>
<p>Either A, B, or C:</p> <p>A. Unplanned loss of most or all Safety System Annunciators for greater than 15 minutes</p> <p>.....</p> <p>B. Loss of primary communications with off-site locations</p> <p align="center"><b>AND</b></p> <p>Loss of all backup communications with offsite locations</p> <p>.....</p> <p>C. Loss of effluent or radiological monitoring capability requiring plant shutdown.</p>	<p>Unplanned loss of <u>ALL</u> Safety System Annunciators</p> <p align="center"><b>AND</b></p> <p>Plant Transient in progress</p>	<p>Inability to monitor a significant transient in progress</p>	
<b>Possible Control Room Indicators</b>			
Complete Actions listed in Subsection 5.3 Page 20	Complete Actions listed in Subsection 5.4 Page 25	Complete Actions listed in Subsection 5.5 Page 32	Complete Actions listed in Subsection 5.6 Page 41

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**EMERGENCY CLASSIFICATION TABLE**

<b>12. Natural Phenomena</b>			
<b>UNUSUAL EVENT</b>	<b>ALERT</b>	<b>SITE AREA EMERGENCY</b>	<b>GENERAL EMERGENCY</b>
Plant in Mode 1-2-3-4 <u>AND</u> either A, B, C or D:  A. Confirmed hurricane warning <u>OR</u> B. Confirmed tornado in owner controlled area <u>OR</u> C. Any earthquake detected on site <u>OR</u> D. Hurricane/flood surge that prevents land access to the site	Plant in any mode including defueled. <u>AND</u> either A, B, C or D:  <b>NOTE:</b> If accurate projections of on-site wind speeds are not available within 12 hours of entering the hurricane warning, classify the event using current hurricane track and wind speeds to project on-site conditions.  A. Confirmed hurricane warning with maximum projected on-site wind speeds in excess of 200 mph <u>OR</u> B. Tornado striking any power block structure <u>OR</u> C. Earthquake that could cause or has caused trip of the turbine generator or reactor <u>OR</u> D. Hurricane/flood surge that raises water level greater than 18 feet above MLW	Plant in Mode 1-2-3-4 <u>AND</u> either A, B or C:  <b>NOTE:</b> If accurate projections of on-site wind speeds are not available within 12 hours of entering the hurricane warning, classify the event using current hurricane track and wind speeds to project on-site conditions.  A. Confirmed hurricane warning with maximum projected on-site wind speeds in excess of 225 mph <u>AND</u> the unit not expected to be in cold shutdown prior to the projected onset of hurricane force winds <u>OR</u> B. Earthquake has caused loss of any safety system function <u>OR</u> C. Hurricane/flood surge that raises water level greater than 18 feet above MLW and results in shutdown of turbine generator or reactor.	A major natural event (e.g., high winds, earthquake, flooding) has occurred, which has caused massive damage to plant systems resulting in any of the other General Emergency initiating conditions.  <b>CAUTION:</b> Consult Attachment 3 for required Protective Action Recommendations.
<b>Possible Control Room Indicators</b>			
Complete Actions listed in Subsection 5.3 Page 20	Complete Actions listed in Subsection 5.4 Page 25	Complete Actions listed in Subsection 5.5 Page 32	Complete Actions listed in Subsection 5.6 Page 41

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**EMERGENCY CLASSIFICATION TABLE**

<b>13. Hazards To Station Personnel And Equipment</b>			
<b>UNUSUAL EVENT</b>	<b>ALERT</b>	<b>SITE AREA EMERGENCY</b>	<b>GENERAL EMERGENCY</b>
<p>Safety of nuclear plant or personnel threatened by either A, B, C, D, or E:</p> <p>A. Aircraft crash on site .....</p> <p>B. Unusual aircraft activity over facility .....</p> <p>C. Toxic or flammable gas release .....</p> <p>D. Turbine generator rotating component failure requiring rapid turbine shutdown .....</p> <p>E. On-Site Explosion</p> <p><b>NOTE:</b> Explosion is defined as a rapid chemical reaction resulting in noise, heat and the rapid expansion of gas.</p>	<p>Either A, B, or C:</p> <p>A. A reduction in the level of safety of plant structures or components within the protected area due to damage caused by either 1), 2), or 3):</p> <p style="padding-left: 40px;">1) Aircraft crash <span style="margin-left: 100px;"><u>OR</u></span> 2) Missile impact <span style="margin-left: 100px;"><u>OR</u></span> 3) Explosion</p> <p><b>NOTE:</b> Explosion is defined as a rapid chemical reaction resulting in noise, heat and the rapid expansion of gas.</p> <p>B. Toxic or flammable gas release which threatens plant operation.</p> <p>C. Turbine generator failure resulting in casing penetration.</p>	<p>Either A or B:</p> <p>A. Plant in Mode 1-2-3-4 <span style="margin-left: 100px;"><u>AND</u></span> Safety systems have failed or damage to vital structure has been caused by either 1), 2), or 3):</p> <p style="padding-left: 40px;">1) Aircraft crash <span style="margin-left: 100px;"><u>OR</u></span> 2) Missile impact <span style="margin-left: 100px;"><u>OR</u></span> 3) Explosion</p> <p><b>NOTE:</b> Explosion is defined as a rapid chemical reaction resulting in noise, heat and the rapid expansion of gas.</p> <p>B. Toxic or flammable gas release into control or vital areas which renders one train of Safety Related Systems inoperable.</p>	
<b>Possible Control Room Indicators</b>			
Complete Actions listed in Subsection 5.3 Page 20	Complete Actions listed in Subsection 5.4 Page 25	Complete Actions listed in Subsection 5.5 Page 32	Complete Actions listed in Subsection 5.6 Page 41

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**EMERGENCY CLASSIFICATION TABLE**

14. Security Threat			
UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
Declaration of a Security Alert due to either A, B, C, D, E, F, G, H  A. Bomb Threat ..... B. Attack threat ..... C. Civil disturbance ..... D. Protected area intrusion ..... E. Sabotage attempt ..... F. Internal disturbance ..... G. Vital area intrusion ..... H. Security Force strike	Declaration of a Security Emergency	Declaration of a Security Emergency involving imminent occupancy of the Control Room or other vital areas by intruders.	Physical attack on the plant resulting in occupation of the Control Room or other vital areas by intruders.  <b>CAUTION:</b> Consult Attachment 3 for required Protective Action Recommendations.
<b>Possible Control Room Indicators</b>			
Complete Actions listed in Subsection 5.3 Page 20	Complete Actions listed in Subsection 5.4 Page 25	Complete Actions listed in Subsection 5.5 Page 32	Complete Actions listed in Subsection 5.6 Page 41

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**EMERGENCY CLASSIFICATION TABLE**

15. Control Room Evacuation			
UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
	Control Room evacuation anticipated or required.	Control Room has been evacuated <b>AND</b> Local control of shutdown systems has <b>NOT</b> been established from local stations within 15 minutes.	
Possible Control Room Indicators			

16. Fire			
UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
Uncontrolled fire within the power block lasting longer than 10 minutes.	Uncontrolled fire potentially affecting safety systems <b>AND</b> Offsite support required	Fire which prevents a safety system from performing its design function.	A major fire has occurred which has caused massive damage to plant systems resulting in any of the other General Emergency initiating conditions.  <b>CAUTION:</b> Consult Attachment 3 for required Protective Action Recommendations.
Possible Control Room Indicators			
Complete Actions listed in Subsection 5.3 Page 20	Complete Actions listed in Subsection 5.4 Page 25	Complete Actions listed in Subsection 5.5 Page 32	Complete Actions listed in Subsection 5.6 Page 41

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**EMERGENCY CLASSIFICATION TABLE**

<b>17. Plant Shutdown</b>			
<b>UNUSUAL EVENT</b>	<b>ALERT</b>	<b>SITE AREA EMERGENCY</b>	<b>GENERAL EMERGENCY</b>
Any plant shutdown required by Technical Specifications in which the required shutdown mode is not reached within the Action Statement time limits.			
<b>Possible Control Room Indicators</b>			
Complete Actions listed in Subsection 5.3 Page 20	Complete Actions listed in Subsection 5.4 Page 25	Complete Actions listed in Subsection 5.5 Page 32	Complete Actions listed in Subsection 5.6 Page 41

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## EMERGENCY CLASSIFICATION TABLE

## 18. Other Plant Conditions Requiring Increased Awareness (Emergency Coordinator's Judgment)

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<p>Emergency Coordinator's judgment that other plant conditions exist which warrant increased awareness on the part of the operating staff and/or local off-site authorities.</p> <p><b>NOTE:</b> Activation of the Emergency Response Facilities does not require declaration of an emergency or entry into a specific emergency classification.</p>	<p>Emergency Coordinator's judgment that other plant conditions exist which warrant the increased awareness and activation of emergency response personnel.</p>	<p>Emergency Coordinator's judgment that other plant conditions exist which warrant the precautionary notification to the public near the site and the activation of FPL and off-site agency emergency response personnel.</p> <p>(Reflects conditions where some significant releases are likely or are occurring but where a core melt situation is not indicated based on current information)</p>	<p>Emergency Coordinator's judgment that other plant conditions exist which make release of large amounts of radioactivity, in a short period of time, possible</p> <p>(Loss of two fission product barriers with potential for loss of the third, such as, actual or imminent substantial core degradation or melting with the potential for loss of containment.)</p> <p><b>CAUTION:</b> Consult Attachment 3 for required Protective Action Recommendations.</p>
Possible Control Room Indicators			
Complete Actions listed in Subsection 5.3 Page 20	Complete Actions listed in Subsection 5.4 Page 25	Complete Actions listed in Subsection 5.5 Page 32	Complete Actions listed in Subsection 5.6 Page 41

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**ENCLOSURE 2**  
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**GUIDELINES FOR EMERGENCY COORDINATOR  
WHEN TRANSFERRING RESPONSIBILITIES**

The following subjects should be covered in the turnover, if applicable, when transferring responsibilities of Emergency Coordinator from Control Room to TSC and from TSC to EOF:

1. The current Emergency Classification.
2. Current Protective Action Recommendations.
3. Time and content of last notification made to the State and Counties.
4. Time and content of last notification made to the NRC.
5. Status of Plant.
6. Significant equipment issues.
7. Significant Emergency Response issues.
8. If communication links have been established.



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**ENCLOSURE 3**  
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**DE-ESCALATION GUIDELINES**

Once the Plant classifies a Site Area Emergency, or General Emergency, only the Recovery Manager has the authority to de-escalate to a lower classification level. The following guidelines provide points to consider when de-escalation may be appropriate.

1. Review Enclosure 1 to assure that classification criteria to enter event is no longer applicable, or referenced situations are under control.
2. Verify, additionally, that the plant is stable, under control, and trend or prognosis indicates that improvement is the most likely prospect. Consider the following:
  - a. Sub-criticality
  - b. Core cooling mode
  - c. Heat sink mode
  - d. RCS Pressure Boundary Integrity
  - e. Inventory Control (Primary and Secondary Coolant)
3. Verify there is no foreseeable likelihood of a significant uncontrolled release. Consider the following:
  - a. Containment Pressure
  - b. Containment/Auxiliary Building Radiation Levels.
  - c. Waste Gas Storage Tank Pressures and Activities
  - d. Contaminated Water Volumes and Activities
4. Verify long-term staffing for both the site and EOF is organized in place as appropriate for the event.
5. Consider reviewing the USNRC Response Technical Manual (RTM-96), Section H, Intermediate Phase Protective Action Assessment, for guidance on whether the incident source and releases have been brought under control. (Reference Substep 2.1.2.4)

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## ATTACHMENT 1

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## FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM

1. A. ☐ THIS IS A DRILL B. ☐ THIS IS AN ACTUAL EVENT
2. A. Time/Date contact made \_\_\_\_\_ B. Reported by: (Name/Title) \_\_\_\_\_
- C. Message Number \_\_\_\_\_ D. Reported from: ☐ Control Room ☐ TSC ☐ EOF
3. SITE A. ☐ CRISTAL RIVER UNIT 3 B. ☐ ST LUCIE UNIT 1 D. ☐ TURKEY POINT UNIT 3
- C. ☐ ST LUCIE UNIT 2 E. ☐ TURKEY POINT UNIT 4

4. ACCIDENT CLASSIFICATION A. ☐ NOTIFICATION OF UNUSUAL EVENT C. ☐ SITE AREA EMERGENCY
- B. ☐ ALERT D. ☐ GENERAL EMERGENCY

5. CURRENT EMERGENCY DECLARATION: TIME: \_\_\_\_\_ DATE \_\_\_\_\_
6. REASON FOR EMERGENCY DECLARATION \_\_\_\_\_

7. ADDITIONAL INFORMATION OR UPDATE: \_\_\_\_\_

8. INJURIES REQUIRING OFFSITE SUPPORT: A. ☐ No ☐ Yes ☐ Unknown B. Contaminated: ☐ No ☐ Yes ☐ Unknown

9. WEATHER DATA: A. Wind direction from \_\_\_\_\_ degrees.
- B. Downwind Sectors Affected (minimum of 3): \_\_\_\_\_

10. RELEASE STATUS: A. ☐ No Release (Go to Item 12) C. ☐ A Release occurred, but stopped
- B. ☐ A Release is occurring

11. OFFSITE RELEASE SIGNIFICANCE CATEGORY (at the Site Boundary)
- A. ☐ Information not available at this time
- B. ☐ Release within normal operating limits ( $\leq 2.8$  ci/sec noble gas,  $\leq 3.7$  E-4 ci/sec iodine)
- C. ☐ Non-Significant Fraction of PAG Range (release is  $>$  normal limits and  $< 500$  mR TEDE and 1000 mR CDE)
- D. ☐ PAG Range ( $\geq 500$  mR TEDE or  $\geq 1000$  mR CDE)

## 12. UTILITY RECOMMENDED PROTECTIVE ACTIONS

- A. ☐ NONE B. ☐ SHELTER ZONES/AREAS: \_\_\_\_\_ (Not for FPL Use)
- EVACUATE ZONES/AREA: \_\_\_\_\_ (Not for FPL Use)
- OR C. ☐ MILES NO ACTION EVACUATE SECTORS SHELTER SECTORS
- |        |       |       |       |
|--------|-------|-------|-------|
| 0 - 2  | _____ | _____ | _____ |
| 2 - 5  | _____ | _____ | _____ |
| 5 - 10 | _____ | _____ | _____ |

13. HAS EVENT BEEN TERMINATED?: A. ☐ NO B. ☐ YES Time \_\_\_\_\_ Date \_\_\_\_\_

14. SUPPLEMENTAL FORM IS ATTACHED?: A. ☐ NO B. ☐ YES
- EC or RM Approval Signature \_\_\_\_\_ Time \_\_\_\_\_ Date \_\_\_\_\_
15. MESSAGE RECEIVED BY: Name \_\_\_\_\_ Time \_\_\_\_\_ Date \_\_\_\_\_

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## Duties of Emergency Coordinator

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FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM  
SUPPLEMENTAL DATA SHEET

The following supplemental data is to be completed after the TSC or EOF is declared operational at Alert of higher Supplement to Message Number \_\_\_\_\_

## PLANT CONDITIONS INFORMATION

## CRITICAL SAFETY FUNCTIONS:

- A. REACTOR SHUTDOWN? ☐ YES ☐ NO  
 B. CORE ADEQUATELY COOLED? ☐ YES ☐ NO  
 C. ADEQUATE EMERGENCY POWER AVAILABLE (DIESELS) ☐ YES ☐ NO

FISSION PRODUCT BARRIER STATUS: (Check one condition for each barrier)

BARRIER	✓	INTACT	✓	CHALLENGED	✓	LOST	✓	REGAINED
FUEL CLADDING		No indication of clad damage		Clad is intact but losing subcooling, water level, etc.		Clad has failed, indicated by high temps., high containment rad, etc.		Cooling restored, no further degradation expected
PRI. REACTOR COOLANT SYSTEM		Leakage is within normal charging or makeup pump capacity		Leakage is within safety injection capacity		Leakage exceeds safety injection capacity		Leakage reduced to within injection capacity (system repaired)
CONTAINMENT		No evidence of containment leakage or tube rupture release is only through condenser		No leakage but containment pressure is at or above safety system actuation points		Evidence of containment leakage (known release path or rad surveys)		Repair Efforts have isolated leak or containment pressure has reduced to stop leakage

COMPLETED BY: \_\_\_\_\_ TIME: \_\_\_\_\_ DATE: \_\_\_\_\_

## RADIOLOGICAL DOSE ASSESSMENT DATA

1. RELEASE STATUS: A. ☐ No Release (no further data required) C. ☐ A Release occurred, but stopped  
 B. ☐ A Release is occurring

2. RELEASE RATE:

- A. ☐ NOBLE GASES: \_\_\_\_\_ Curies per second ☐ Measured ☐ Default  
 B. ☐ IODINES: \_\_\_\_\_ Curies per second ☐ Measured ☐ Default

3. TYPE OF RELEASE:

- A. ☐ AIRBORNE: Time/Date started: \_\_\_\_\_ B. ☐ LIQUID Time/Date started: \_\_\_\_\_  
 Time/Date stopped: \_\_\_\_\_ Time/Date stopped: \_\_\_\_\_

4. PROJECTED OFFSITE DOSE RATE:

DISTANCE	THYROID DOSE RATE (CDE)	TOTAL DOSE RATE (TEDE)
1 Mile (Site Boundary)	A. _____ mrem/hr	B. _____ mrem/hr
2 Miles	C. _____ mrem/hr	D. _____ mrem/hr
5 Miles	E. _____ mrem/hr	F. _____ mrem/hr
10 Miles	G. _____ mrem/hr	H. _____ mrem/hr

5. WEATHER DATA (used for the above data):

- A. Wind Direction from \_\_\_\_\_ degrees.  
 B. Wind Speed \_\_\_\_\_ MPH  
 C. Stability Class \_\_\_\_\_

COMPLETED BY: \_\_\_\_\_ TIME: \_\_\_\_\_ DATE: \_\_\_\_\_

Emergency Coordinator or Recovery Manager Approval \_\_\_\_\_

## ATTACHMENT 1

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# FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM METEOROLOGICAL WORKSHEET

SECTOR REFERENCE:

The chart below can be used to determine sectors affected by a radiological release, through comparison with wind direction from the meteorological recorders in the Control Room.

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

SECTOR INFORMATION:

<u>WIND SECTOR</u>	<u>WIND FROM</u>	<u>DEGREES</u>	<u>WIND TOWARD</u>	<u>SECTORS AFFECTED</u>
[A]	N	348-11	S	HJK
[B]	NNE	11-33	SSW	JKL
[C]	NE	33-56	SW	KLM
[D]	ENE	56-78	WSW	LMN
[E]	E	78-101	W	MNP
[F]	ESE	101-123	WNW	NPQ
[G]	SE	123-146	NW	PQR
[H]	SSE	146-168	NNW	QRA
[J]	S	168-191	N	RAB
[K]	SSW	191-213	NNE	ABC
[L]	SW	213-236	NE	BCD
[M]	WSW	236-258	ENE	CDE
[N]	W	258-281	E	DEF
[P]	WNW	281-303	ESE	EFG
[Q]	NW	303-326	SE	FGH
[R]	NNW	326-348	SSE	GHJ

STABILITY CLASSIFICATION REFERENCE:

The below chart can be used to determine atmospheric stability classification for notification to the State of Florida. Primary method is from  $\Delta T$  via the South Dade (60 meter) tower. Backup method is from Sigma Theta via the Ten Meter Tower. If neither meteorological tower is available, Stability Classification shall be determined using data from National Weather Service (See 0-EPIP-20126, Off-site Dose Calculations).

CLASSIFICATION OF ATMOSPHERIC STABILITY:

<u>Stability Classification</u>	<u>Pasquill Categories</u>	<u>Primary Delta T (°F)</u>	<u>Backup Sigma Theta Range (Degrees)</u>
Extremely unstable	A	$\Delta T \leq -1.7$	$ST \geq 22.5$
Moderately unstable	B	$-1.7 < \Delta T \leq -1.5$	$22.5 > ST \geq 17.5$
Slightly unstable	C	$-1.5 < \Delta T \leq -1.4$	$17.5 > ST \geq 12.5$
Neutral	D	$-1.4 < \Delta T \leq -0.5$	$12.5 > ST \geq 7.5$
Slightly stable	E	$-0.5 < \Delta T \leq +1.4$	$7.5 > ST \geq 3.8$
Moderately stable	F	$+1.4 < \Delta T \leq +3.6$	$3.8 > ST \geq 2.1$
Extremely stable	G	$+3.6 < \Delta T$	$2.1 > ST$

Meteorological information needed to fill out the Florida Nuclear Plant Emergency Notification Form is available from the Dose Calculation Worksheet (0-EPIP-20126). The Worksheet shall be filled out by Chemistry and given to the Emergency Coordinator.

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**EVENT NOTIFICATION WORKSHEET**  
**NRC FORM 361**

<b>NRC FORM 361</b>		<b>US NUCLEAR REGULATORY COMMISSION</b>	
		<b>OPERATIONS CENTER</b>	
<b>EVENT NOTIFICATION WORKSHEET</b>			
<b>NOTIFICATION TIME</b>	<b>FACILITY OR ORGANIZATION</b>	<b>UNIT</b>	<b>CALLER'S NAME</b>
			<b>CALL BACK: ENS _____</b> <b>OR ( ) _____</b>
<b>EVENT TIME &amp; ZONE</b>	<b>EVENT DATE</b> / /	<b>1-Hr Non-Emergency</b> <b>10 CFR 50.72 (b) (1)</b>	<b>(v) Lost Offsite Comms</b>
		<b>(I) (A) TS Required S/D</b>	<b>(vi) Fire</b>
<b>POWER MODE BEFORE</b>	<b>POWER MODE AFTER</b>	<b>(I) (B) TS Deviation</b>	<b>(vi) Toxic Gas</b>
		<b>(III) Degraded Condition</b>	<b>(vi) Rad Release</b>
		<b>(II) (A) Unanalyzed Condition</b>	<b>(vi) Other Hampering Safe Op</b>
<b>Event Classifications</b>		<b>(II) (B) Outside Design Basis</b>	<b>4-Hr Non-Emergency</b> <b>10 CFR 50.72 (b) (2)</b>
		<b>(II) (C) Not Covered by OPs/EOPs</b>	<b>(I) Degrade While S/D</b>
<b>GENERAL EMERGENCY</b>		<b>(III) Earthquake</b>	<b>(II) RPS Actuation (Scram)</b>
<b>SITE AREA EMERGENCY</b>		<b>(III) Flood</b>	<b>(II) ESF Actuation</b>
<b>ALERT</b>		<b>(III) Hurricane</b>	<b>(III) (A) Safe S/D Capability</b>
<b>UNUSUAL EVENT</b>		<b>(III) Ice/Hail</b>	<b>(III) (B) Rhr Capability</b>
<b>50.72 NON-EMERGENCY</b>		<b>(III) Lighting</b>	<b>(III) (C) Control of Rad Release</b>
<b>PHYSICAL SECURITY (73.71)</b>		<b>(III) Tornado</b>	<b>(III) (D) Accident Mitigation</b>
<b>TRANSPORTATION</b>		<b>(III) Other Natural Phenomenon</b>	<b>(iv) (A) Air Release &gt;2X App B</b>
<b>20.403 MATERIAL/EXPOSURE</b>		<b>(iv) ECCS Discharge to RCS</b>	<b>(iv) (B) Liq Release &gt;2X App B</b>
<b>OTHER</b>		<b>(v) Lost ENS</b>	<b>(v) Offsite Medical</b>
		<b>(v) Lost Emerg. Assessment</b>	<b>(vi) Offsite Notification</b>

**DESCRIPTION**

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

<b>NOTIFICATIONS NRC RESIDENT</b>	<b>YES</b>	<b>NO</b>	<b>WILL BE</b>	<b>ANYTHING UNUSUAL OR NOT UNDERSTOOD?</b>	<b>YES (Explain above)</b>	<b>NO</b>
<b>STATE(s)</b>				<b>DID ALL SYSTEMS FUNCTION AS REQUIRED?</b>	<b>YES</b>	<b>NO (Explain above)</b>
<b>LOCAL</b>						
<b>OTHER GOV AGENCIES</b>				<b>MODE OF OPERATION UNTIL CORRECTED</b>	<b>ESTIMATE FOR RESTART DATE:</b>	<b>ADDITION INFO ON BACK?</b>

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**EVENT NOTIFICATION WORKSHEET**  
**NRC FORM 361**

NRC FORM 361

ADDITIONAL INFORMATION

USNRC OPERATIONS CENTER

RADIOLOGICAL RELEASES CHECK OR FILL IN APPLICABLE ITEMS (specific details/explanations should be covered in event description)						
<input type="checkbox"/> LIQUID RELEASE	<input type="checkbox"/> GASEOUS RELEASE	<input type="checkbox"/> UNPLANNED RELEASE	<input type="checkbox"/> PLANNED RELEASE	<input type="checkbox"/> ONGOING	<input type="checkbox"/> TERMINATED	
<input type="checkbox"/> MONITORED	<input type="checkbox"/> UNMONITORED	<input type="checkbox"/> OFFSITE RELEASE	<input type="checkbox"/> T.S. EXCEEDED	<input type="checkbox"/> RM ALARMS	<input type="checkbox"/> AREAS EVACUATED	
<input type="checkbox"/> PERSONNEL EXPOSED OR CONTAMINATED		<input type="checkbox"/> OFFSITE PROTECTIVE ACTIONS RECOMMENDED		<input type="checkbox"/> *State release path in description		

	Release Rate (Ci/sec)	% T.S. LIMIT	HOO GUIDE	Total Activity (Ci)	% T.S. LIMIT	HOO GUIDE
Noble Gas			0.1 Ci/sec			1000 Ci
Iodine			10 µCi/sec			0.01 Ci
Particulate			1 µCi/sec			1 mCi
Liquid (excluding tritium & dissolved noble gases)			10 µCi/min			0.1 Ci
Liquid (tritium)			0.2 Ci/min			5 Ci
Total Activity						

	PLANT STACK	CONDENSER/AIR EJECTOR	MAIN STEAM LINE	SG BLOWDOWN	OTHER
RAD MONITOR READINGS:					
ALARM SETPOINTS:					
% T.S. LIMIT (if applicable)					

RCS OR SG TUBE LEAKS CHECK OR FILL IN APPLICABLE ITEMS: (specific details/explanations should be covered in event description)			
LOCATION OF THE LEAK (e.g., SG #, valve, pipe, etc):			
LEAK RATE:	UNITS: gpm/gpd	T.S. Limits:	SUDDEN OR LONG TERM DEVELOPMENT:
LEAK START DATE:	TIME:	COOLANT ACTIVITY & UNITS: PRIMARY -	SECONDARY -
LIST OF SAFETY RELATED EQUIPMENT NOT OPERATIONAL:			

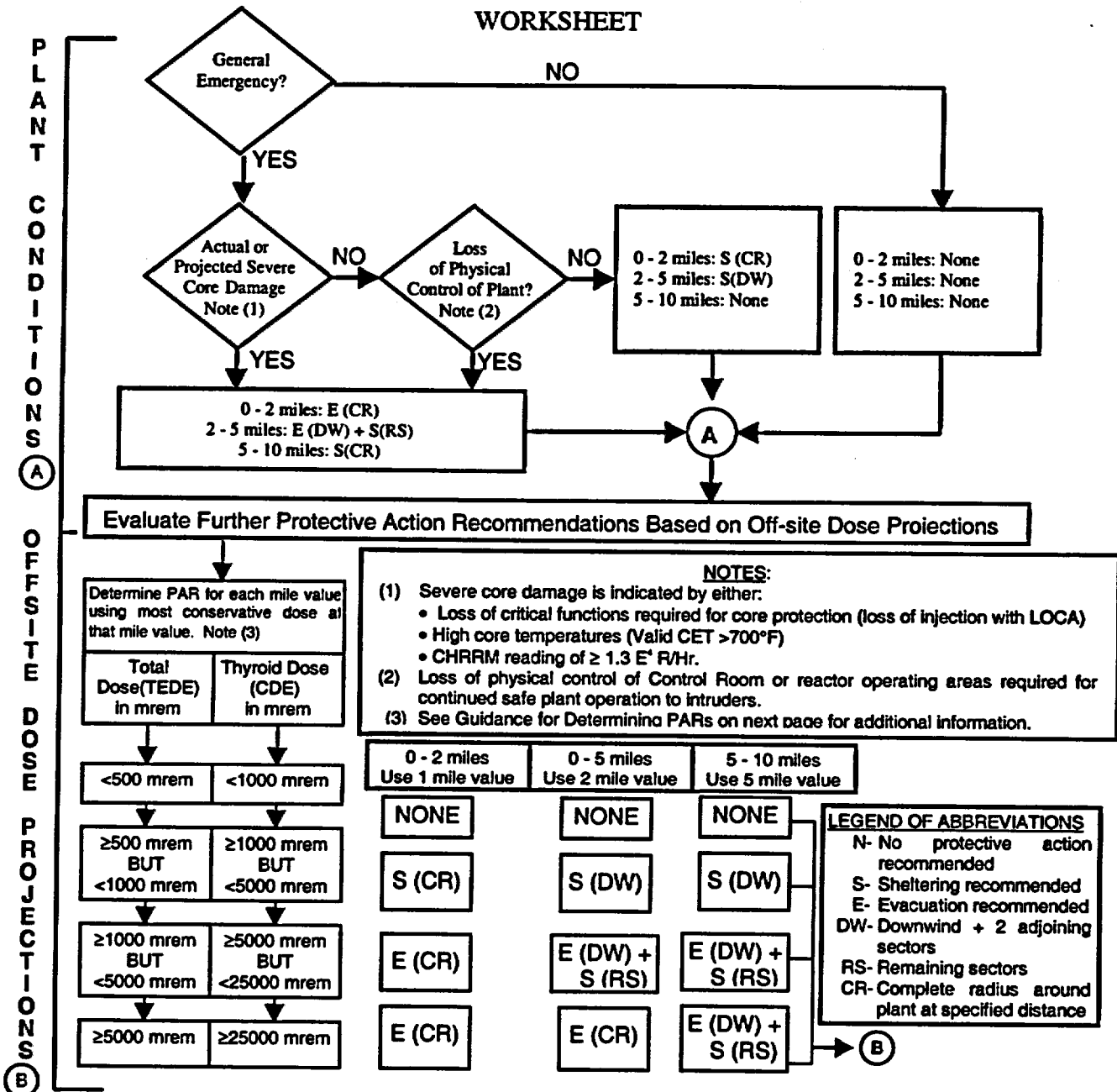
EVENT DESCRIPTION (Continued from front)

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W97:JR/dt/ev/sw

**ATTACHMENT 3**  
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**GUIDANCE FOR DETERMINING  
PROTECTIVE ACTION RECOMMENDATIONS (PARS)**

**WORKSHEET**



**SUMMARY**

0 - 2 MI.

2 - 5 MI.

5 - 10 MI.

(A)	PARs based on - Plant Conditions			
(B)	PARs based on - Total Dose (TEDE)			
	PARs based on - Thyroid Dose (CDE)			
F-444	Most Conservative PARs of (A) & (B)			

**ATTACHMENT 3**

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**GUIDANCE FOR DETERMINING  
PROTECTIVE ACTION RECOMMENDATIONS (PARS)**

FPL is required to provide county and state governmental authorities with recommendations for protective action to be taken by the public during radiological emergencies at the Turkey Point Nuclear Plant. The responsible authorities are the State Division of Emergency Management (DEM), Miami-Dade County Office of Emergency Management and Monroe County Office of Emergency Management.

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

Beginning at the top left side, answer the General Emergency question. If yes, continue on, following the arrows, and answering the other question blocks. Record the PARs based on Plant Condition (A) in the Summary Block at the bottom of the page. From the PAR based on Plant Condition's block continue following arrow to next box, and determine PARs based on Off-site Dose Projections (B) Total Dose (TEDE) and Thyroid Dose (CDE). In determining PARs, both plant conditions AND off-site doses must be considered for all PARs. If a release has not occurred, then proceed with issuance of PARs from the plant condition determination.

To determine PARS from off-site doses, find the blocks that correspond with the Total Dose (TEDE) and Thyroid Dose (CDE) at 1, 2 and 5 miles from the Dose Calculation Worksheet (0-EPIP-20126). Follow across to the column that indicates the distance where that dose was found i.e., first block for 1 mile, second block for 2 miles, or third block for 5 miles. (B) Record the PARs based on Off-site Doses in the Summary Block. Once PARs are determined for all mile sectors for both Total Dose (TEDE) and Thyroid Dose (CDE) (B), then a comparison with the Plant Condition PARs (A) is performed, and the most conservative PARs for each mile sector is selected for issuance to off-site agencies.

The following example is provided:

**EXAMPLE**

*A release has occurred at the Turkey Point Plant. The wind direction is from the SSE and the projected off-site accumulated Thyroid Dose (CDE) is 5,000 mrem at 1 mile, 1,000 mrem at 2 miles, and less than 1,000 mrem at 5 miles. The plant is in a General Emergency with CHRRM at 100 R/hr, no core damage indicators, and no loss of physical control of the plant.*



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**GUIDANCE FOR DETERMINING  
PROTECTIVE ACTION RECOMMENDATIONS (PARS)**

Using the PAR Worksheet, the following recommendations should be made:

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

- A. **EVACUATE** all people between 0 and 2 miles from the plant.
- B. **SHELTER** all people between a 2 and 5 mile radius from the plant who are in Sectors Q, R and A (refer to Attachment 1).
- C. No protective actions is recommended between a 5 and 10 mile radius from the plant.

Due to the large political and legal ramifications of these recommendations and the potential impact on FPL, the following guidelines, format and content should be used.

- (1) If the emergency has not been classified as a **GENERAL EMERGENCY** and the off-site doses are **LESS THAN 500 mrem Total Dose (TEDE)** or **1,000 mrem Thyroid Dose (CDE)** at 1 mile over the projected duration of the release, no protective action is recommended. When reporting to DEM and other off-site agencies who inquire, this should be reported in a manner similar to the following:

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

- (2) When available, both plume calculation and off-site monitoring results should be evaluated when making protective action recommendations. If significant discrepancies exist between field monitoring results and plume dispersion calculations, then the discrepancy should be reviewed, and the appropriate value should be selected in the determination of protective action recommendations.

**ATTACHMENT 3**  
(Page 4 of 4)

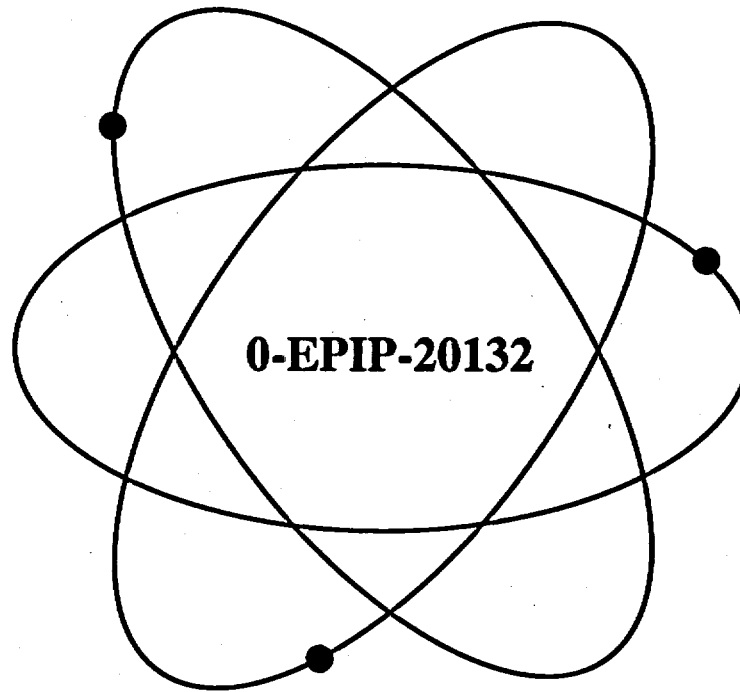
**GUIDANCE FOR DETERMINING  
PROTECTIVE ACTION RECOMMENDATIONS (PARS)**

- (3) Thyroid Dose (CDE) Limits for PARs are based on adult thyroid. These limits are consistent with EPA Guidelines based on the following criteria:
- a. uncertainty and potential errors associated with age specific parameters, and
  - b. level of conservatism in the adult values.
- (4) Loss of physical control of the plant to intruders shall be determined by the Emergency Coordinator based on the current operating mode requirements of the unit/plant, and the availability of equipment required for continued safe operation.

**FINAL PAGE**

# Florida Power & Light Company

## Turkey Point Nuclear Plant



**Title:**

### Technical Support Center (TSC) Activation and Operation

#### Safety Related Procedure

<i>Responsible Department:</i>	Emergency Preparedness
<i>Revision Approval Date:</i>	5/31/00
<i>Periodic Review Due:</i>	9/22/04
<i>Implementation Date:</i>	6/1/00

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**LIST OF EFFECTIVE PAGES**

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12	09/23/99	36	09/23/99	60	05/31/00
13	09/23/99	37	09/23/99	61	05/31/00
14	09/23/99	38	09/23/99	62	05/31/00
15	09/23/99	39	09/23/99	63	05/31/00
16	09/23/99	40	09/23/99		
17	09/23/99	41	09/23/99		
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**1.0 PURPOSE**

- 1.1 This procedure provides instructions for the activation and operation of the Technical Support Center (TSC).

**2.0 REFERENCES/RECORDS REQUIRED/COMMITMENT DOCUMENTS****2.1 References****2.1.1 Plant Procedures**

1. 0-ADM-207, Operations Instructions in the Event of a Situation Not Addressed by Procedure
2. 0-EPIP-1302, PTN Core Damage Assessment
3. 0-EPIP-20101, Duties of the Emergency Coordinator
4. 0-EPIP-20106, Natural Emergencies
5. 0-EPIP-20126, Off-site Dose Calculations
6. 0-EPIP-20133, Operations Support Center (OSC) Activation and Operation
7. 0-HPT-013.3, Calibration and Operation of the Eberline Beta Monitoring System Model AMS-3(A)

**2.1.2 Miscellaneous Documents (PC/M, Correspondence etc.)**

1. Turkey Point Plant Radiological Emergency Plan
2. Emergency Response Directory
3. PC/M 92-134, ERDADS/SAS Datalink to the Emergency Response Data System
4. SFI-6307, Emergency Evacuation and Accountability



**2.2 Records Required**

2.2.1 Completed copies of the below listed item(s) constitute Quality Assurance Records and shall be transmitted to QA Records for retention in accordance with Quality Assurance Records Program requirements:

1. None

2.2.2 The various supervisors in the TSC shall maintain logbooks of activities performed during a plant emergency. Logbooks shall be stored in the applicable areas in the TSC.

2.2.3 Upon deactivation of the TSC, the following completed documents shall be transmitted to the Emergency Preparedness Coordinator for review and retention for archival purposes:

1. TSC Staff Accountability Log similar to Attachment 6

**2.3 Commitment Documents**

2.3.1 None

**3.0 RESPONSIBILITIES**

3.1 Emergency Response Organization Members assigned to the TSC are responsible for:

3.1.1 Bringing any available two-way radios to the TSC for emergency use if not needed in the OSC.

3.1.2 Assisting in the Activation/Operation of the TSC in accordance with Section 5.0 of this procedure.

3.1.3 Using Speed Memos to request tasks/information, as appropriate.

3.1.4 Performing tasks as requested by their supervisors.

3.2 The TSC Supervisor is responsible for:

3.2.1 Reviewing requests from the Technical Support Group.

3.2.2 Reviewing and recommending approval of Team Request Speed Memos.

3.2.3 Reviewing and routing Speed Memos to the appropriate supervisor.

**Technical Support Center (TSC)  
Activation and Operation**

- 3.2.4 Ensuring accountability within the TSC is maintained.
- 3.2.5 Directing the activities of the Technical Support Group.
- 3.2.6 Ensuring communication links are functional and established.
- 3.2.7 Providing technical assessment to the Control Room operating staff.
- 3.2.8 Ensuring timely and accurate data/information is provided to the EOF.
- 3.2.9 Ensuring timely and accurate updates of the TSC Status Boards and other informational systems.
- 3.2.10 Ensuring the implementation of 0-EPIP-1302, PTN Core Damage Assessment.
- 3.2.11 Coordinating and verifying facility operational readiness.
- 3.2.12 Ensuring initial and follow-up notifications to the State Warning Point, Dade County and Monroe County are provided.
- 3.2.13 Consulting with the TSC Operations Manager and the Emergency Coordinator on the need to implement Severe Accident Management Guidelines (SAMGs).
- 3.2.14 Reviewing team priorities on the Team Tracking Board.
- 3.3 The Technical Assistant to the Emergency Coordinator is responsible for:
  - 3.3.1 Tracking plant progress through the Emergency Action Levels and providing recommendations to the Emergency Coordinator.
  - 3.3.2 Providing SRO expertise in the TSC for accident assessment functions.
  - 3.3.3 Assisting the TSC Operations Manager in following the Control Room transitions through the Emergency Operating Procedures.
  - 3.3.4 Assisting the Emergency Coordinator in developing Protective Action Recommendations based on Plant Conditions and Off-site Dose Projections.
  - 3.3.5 Ensuring that Protective Action Recommendations made by FPL and Protective Actions issued by government agencies are posted in the TSC.

**Technical Support Center (TSC)  
Activation and Operation**

- 3.4 The TSC Maintenance Manager is responsible for ensuring the completion of the following:
- 3.4.1 Taking requests for Emergency Response Teams (ERT) that have been approved by the Emergency Coordinator and instructing the OSC in the formation of the ERT.
  - 3.4.2 Tracking and updating ERT progress and providing feedback to the TSC Operations Manager.
  - 3.4.3 Updating the OSC Manager with pertinent information and providing team priorities.
  - 3.4.4 Obtaining Company vehicles for use by Off-site ERT.
- 3.5 The TSC Operations Manager is responsible for:
- 3.5.1 Forwarding requests for teams from the Control Room to the Emergency Coordinator.
  - 3.5.2 Advising the Emergency Coordinator on operational concerns and requirements.
  - 3.5.3 Following the transition between Emergency Operating Procedures (EOPs).
  - 3.5.4 Providing Protective Action Recommendations based on Plant Conditions to the Emergency Coordinator.
  - 3.5.5 Providing feedback to the Control Room on the status of team activities.
- 3.6 The TSC Health Physics Supervisor is responsible for:
- 3.6.1 Providing off-site radiological data to the TSC Chemistry Supervisor.
  - 3.6.2 Coordinating the use of the Off-site ERTs with the EOF.
  - 3.6.3 Maintaining communications and updating radiological conditions with the NRC on the Health Physics Network, as required.
  - 3.6.4 Providing information to the Emergency Coordinator on the radiological survey results obtained by the Off-site ERTs.
  - 3.6.5 Assessing plant radiological conditions and providing assessment results to the Operation Support Center (OSC).

- 3.6.6 Providing recommendations on the authorization of emergency exposures to the Emergency Coordinator.
- 3.6.7 Coordinating the activities of the Off-site Assembly Area.
- 3.6.8 Advising the Emergency Response Organization on radiological control matters.
- 3.6.9 Ensuring that personal dosimetry is issued to and periodically checked by TSC emergency responders.
- 3.7 The TSC Chemistry Supervisor is responsible for:
  - 3.7.1 Coordinating the calculation of Off-site Dose Calculations.
  - 3.7.2 Interpreting data and data discrepancies.
  - 3.7.3 Reviewing requests for Chemistry samples.
  - 3.7.4 Providing Protective Action Recommendations based on Off-site Dose Projections to the Emergency Coordinator.
- 3.8 The TSC Security Supervisor is responsible for:
  - 3.8.1 Coordinating the response of the Security Force.
  - 3.8.2 Tracking TSC Staff Accountability.
  - 3.8.3 Providing assistance to local law enforcement agencies as directed.
  - 3.8.4 Ensuring that site accountability is performed and Emergency Coordinator is kept informed of status.
- 3.9 The TSC Licensed Operator Support personnel are responsible for:
  - 3.9.1 Providing operational information and guidance to the TSC Technical Support personnel, and other personnel, as necessary, to effectively coordinate Tech Support activities with Operations and other emergency response personnel.
  - 3.9.2 Monitoring the status of the unaffected unit and reporting any operational concerns or Technical Specification issues to the TSC Lead Engineer and the TSC Operations Manager.

3.10 The TSC Plant Data Status Board Keeper is responsible for:

- 3.10.1 Updating plant data on Status Board with current information from ERDADS Printout.
- 3.10.2 Reviewing logs faxed from Control Room for any critical parameters to be placed on status board.
- 3.10.3 Notifying the TSC Supervisor of rapid changes to plant data or any need for further instructions, in accordance with guidelines in Enclosure 3 and Enclosure 4 of this procedure.

3.11 The TSC Plant Data Communicator is responsible for:

- 3.11.1 Establishing communication with the Control Room Communicator.
- 3.11.2 Notifying the TSC Supervisor of rapid changes to plant data or any need for further instructions, in accordance with the guidelines in Enclosure 3 and Enclosure 4 of this procedure.

3.12 The TSC ENS Communicator is responsible for:

- 3.12.1 Verifying operability of the ENS (FTS-2000) phone equipment.
- 3.12.2 Maintaining open line of communications, if requested, with the NRC.

3.13 The TSC Site Corporate Communicator is responsible for:

- 3.13.1 Verifying operability of the TV Monitor System.
- 3.13.2 Notifying the TSC Supervisor when the TV Monitor System is ready for operation or needs corrective actions, as appropriate.

3.14 The TSC Reactor Engineer is responsible for:

- 3.14.1 Monitoring SAMG criteria in the event that the TSC Supervisor is not present in the TSC.

3.15 The TSC Engineering/Maintenance Liason is responsible for:

- 3.15.1 Providing maintenance experience to the Technical Support Group.
- 3.15.2 Acquiring information from the OSC Re-entry Coordinators to support the Technical Support Group.

**4.0 DEFINITIONS**

- 4.1 State Hot Ring Down Telephone (HRD) - Installed in the Control Room, TSC, Emergency Preparedness Office, and EOF, this system provides dedicated telephone service utilizing pre-designated access codes to notify State and Local Agencies.
- 4.2 Emergency Notification System (ENS) - Installed in the Control Room, TSC, and EOF, this automatic ring down system provides dedicated telephone service to the NRC Operations Center.
- 4.3 Health Physics Network (HPN) - Installed in two locations in the TSC and two locations in the EOF, this system provides dedicated telephone service to the NRC Operations center and NRC Region II response Center for the relay of Health Physics and Environmental Data.
- 4.4 System Control Center Computer Program - A personal computer based software program which accesses the System Operations computer via telephone lines to provide real-time system generation and configuration status. This program is installed on the Technical Support Group computer for Emergency Response use.

5.0 PROCEDURENOTES

- Although the Emergency Coordinator duties are transferred to the TSC and the Emergency Coordinator is then functionally a position in the TSC, Emergency Coordinator duties and responsibilities are not defined in this procedure. Regardless of the physical location of the Emergency Coordinator, his responsibilities are to implement 0-EPIP-20101, Duties of the Emergency Coordinator.
- In order to allow for short relief breaks during emergency situations (e.g. for bathroom, drinking, smoking breaks, etc.), the Emergency Coordinator may temporarily turnover his command and control responsibilities to a qualified individual of this staff. The Emergency Coordinator is always responsible for carrying out his non-delegatable duties, and for approving notifications to Federal and State Authorities.
- In order to provide a complete status of Emergency Response Activities, each area supervisor (Operations, Health Physics, Chemistry, Maintenance, Technical Support, etc.) should give status reports of emergency response activities, as necessary, when the Emergency Coordinator reviews the Plant Status and updates ERO personnel.
- Three fax machines are available in the TSC. The OUT-GOING TSC Operations Fax machine is primarily used by the TSC ENS Communicator to transmit notification forms to off-site agencies. The IN-COMING TSC Operations Fax machine is used for receiving information necessary for the operation of the TSC. The TSC HP/Chemistry Fax machine is primarily used to transmit HP/Chemistry information to and from the OSC.
- If a natural emergency occurs, 0-EPIP-20106, Natural Emergencies, has additional duties and responsibilities which may be applicable to the emergency situation.
- Figure 1 is provided as general guidance for set up of the TSC. The TSC is a dedicated facility and should be set up and ready for emergency activities at all times.
- The Security Command Post Operations Advisor is a Licensed Operator stationed in the Security Command Post to provide operational interface and liaison for security personnel during emergency situations when the TSC is activated. Operational questions regarding security should be coordinated through the TSC Security Supervisor with the Security Command Post Operations Advisor. This position is only provided when a security emergency is declared.
- The normal power supply for the TSC is from Breaker 7 on Distribution Panel 85, which is fed from the Florida City Substation line supplying the Administrative Support Buildings (NAB, NMB, NTC, etc.) An alternate power supply for the TSC is from Breaker 31503 on 4C 3G from the 3C 4KV bus. The TSC 480 Volt Automatic Transfer Switch will supply power from the alternate source if normal power is lost. When normal power is regained, the transfer switch will automatically switch back to the normal supply within forty minutes.
- Eating and drinking shall be limited and controlled by the TSC Supervisor, and shall be prohibited whenever habitability surveys reveal any surface or airborne contamination activity.

**5.1 Activation of the TSC**

5.1.1 When notified, TSC emergency responders are to report to the facility as quickly as possible.

5.1.2 The first responders to the TSC should do the following:

**NOTE**

*Normally, Security will have the TSC door unlocked prior to responders arriving in order to expedite the activation process. If the door is locked upon arrival, any emergency responder may unlock the TSC by using the key in the break glass box located outside the TSC.*

1. If not already unlocked by Security, unlock the TSC using the TSC key located in the break glass box.
2. Energize breakers for TSC lighting as listed on the breaker panel located inside the TSC door.
3. Sign in on the TSC Staff Accountability Board and record badge numbers.
4. Secure (turn off) the exhaust fans located in the bathroom and kitchen (above stove) to establish pressure boundary.
5. Initiate TSC Ventilation System by completing the following tasks:
  - a. On the Emergency Ventilation Panel, set Air Removal Filter switch to EMERG.
  - b. On the Emergency Ventilation Panel, set Air Handler Unit switch to BYPASS.
  - c. On the Emergency Ventilation Panel, set Humidity Control switch to ON.
  - d. On the Air Conditioning thermostat, set Thermostat Fan switch to ON.
  - e. Verify the DP Gauge located in the ERDADS Operator cubicle on the west wall indicates a positive pressure when the TSC doors are closed.



5.1.2 (Cont'd)

6. Start the TSC Continuous Air Monitor (CAM) located in the Telephone Equipment Room by completing the following tasks:
  - a. Verify the CAM power cord is plugged into an electrical outlet.
  - b. Turn CAM Power Switch to ON located on the back of the CAM (if not already on).
  - c. Turn Sample Pump Power ON using switch located on the pump power cord.
  - d. Log start time and date on the CAM strip chart recorder located on the front of the CAM.

**NOTE**

*A key to the TSC Key Box can be found in the break glass box located on the wall next to the TSC key box. All necessary keys for TSC operation are located inside of the TSC key box.*

7. Unlock the TSC Document Control Cabinets
  8. Activate the Emergency Response Data System (ERDS). Refer to Enclosure 1 for activation instructions.
    - a. Once the ERDS link has been established ensure the ENS communicator informs the NRC that the link is in place.
  9. Verify audibility of the Plant Page System throughout the TSC.
  10. Turn the copy machine on.
- 5.1.3 Refer to Enclosures 5 and 6 for use of speed memos and guidance on control of Re-entry teams.
  - 5.1.4 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 in the TSC.
  - 5.1.5 During facility briefings, stop what you are doing, pay attention and contribute, as requested.

5.2 The TSC Supervisor should perform the following:

5.2.1 Facility Activation

1. Ensure Step 5.1.2 for the first emergency responders has been completed.
2. Sign in on the TSC Staff Accountability Board and record badge number.
3. Ensure all emergency responders sign in on the TSC Staff Accountability Board.
4. Ensure the following TSC positions have been filled to satisfy minimum staffing requirements prior to the Emergency Coordinator declaring the TSC Operational:

**NOTES**

- Capable personnel who normally fill other positions may be used in minimum staff positions or positions with required functions, i.e., notification/communication, to facilitate fastest possible operability of the TSC.
- The positions marked in red on the TSC Staff Accountability Board indicate the minimum number of personnel and positions required for TSC activation.

- a. Emergency Coordinator (1)
- b. TSC Health Physics Supervisor (1)
- c. TSC Maintenance Manager (1) or TSC Mechanical Engineer (1)
- d. TSC Technical Assistant to the Emergency Coordinator (1)
- e. TSC Chemistry Supervisor (1)
- f. TSC ENS Communicator (1)
- g. TSC Dose Assessment Technician (1)
- h. TSC Reactor Engineer (1)
- i. TSC Electrical / I&C Engineer (1)

5.2.1 (Cont'd)

5. Upon arrival of the TSC Fire Protection Supervisor, ensure determination of on-site manpower requirements, and the need for off-site assistance.
6. Verify adequate communication capabilities exist within the TSC.
7. Ensure facility clocks are synchronized to time indicated on ERDADS.
8. Take actions to fill position vacancies within the TSC.
9. Ensure speed memos, and other supplies are available for the TSC Staff.

**NOTE**

*Communications and notifications turnover information does not have to be obtained directly from the communicator who is turning over responsibilities. Turnover information can be obtained from any available source in order to expedite facility activation. Minimum information should include time, type and content of notification last made to State Warning Point and the NRCOC.*

10. Inform the Emergency Coordinator that these activation steps have been completed.
11. When the Emergency Coordinator's duties have been transferred to the TSC, have the Control Room make an announcement to inform plant personnel that the TSC has been activated.

5.2.2 Facility Operation

1. Direct technical and operational assessment activities as required.

**NOTE**

*Status Boards should be updated approximately every 15 minutes or as necessary. More frequent updates may be required during transients.*

2. Verify that the Plant Data and Sequence of Events Boards are maintained and updated in a timely manner.
3. Inform the Emergency Coordinator of assessment activities, equipment, and problems.
4. Periodically verify operability of the TSC ventilation system.
5. Contact additional support personnel as needed.

5.2.2 (Cont'd)**CAUTION**

*The time frame of notifications should be conducted in accordance with 0-EPIP-20101, DUTIES OF THE EMERGENCY COORDINATOR.*

**NOTE**

*Communication links should not be left unattended for periods other than that required to perform assigned duties.*

6. Verify operability of, and timeliness of, communication/ notification links.
7. Periodically review team priorities on the Team Tracking Board.
8. Update the TSC Operations Manager and Emergency Coordinator on team requests and priorities and relay requests and priority adjustments to the TSC Maintenance Manager for disposition.
9. Review and route Speed Memos to the appropriate supervisor for resolution/answer.
10. Resolve equipment and assessment capability problems.
11. Approximately every 45 minutes, have the Emergency Coordinator provide a status update and include the disciplines listed on Attachment 5, or acquire status updates from the disciplines listed on Attachment 5 and provide the completed form to the EC for his update.
12. Maintain a log of activities.

**5.2.3 Facility Closeout and Restoration**

1. Coordinate TSC deactivation with the Emergency Coordinator.
2. Deactivate ERDS in accordance with Enclosure 1.
3. Direct TSC deactivation with all TSC personnel.
4. Verify TSC accountability and ensure TSC Security personnel have properly completed a form similar to Attachment 6.
5. Collect all paperwork generated during the event and forward to the Emergency Preparedness Coordinator.

**5.2.3 (Cont'd)**

6. Restore the TSC Ventilation System by completing the following tasks.
  - a. On the Emergency Ventilation Panel, set Air Removal Filter switch to NORMAL.
  - b. On the Emergency Ventilation Panel, set Air Handler Unit to NORMAL.
  - c. On the Emergency Ventilation Panel, set Humidity Control switch to OFF.
  - d. On the Air Conditioning Thermostat, set Thermostat Fan switch to AUTO.
7. De-energize the TSC Continuous Air Monitor and Sample Pump.
  - a. Log stop time and date on the CAM strip chart recorder located on the front of the CAM.
  - b. Ensure the TSC Health Physics Supervisor retains the filter for radiological analysis.
  - c. Unplug CAM power cord.
  - d. Turn sample pump off using switch located on pump power cord.
8. Ensure a final printout of the boards is made and all boards are erased.
9. Ensure the TSC has been returned to its original condition.
10. Release TSC personnel, as appropriate.

5.3 The Technical Assistant to Emergency Coordinator should perform the following:

**5.3.1 Facility Activation**

1. Conduct facility activation as detailed in Subsection 5.1 of this procedure.
2. Determine present Emergency Action Level status.
3. Ensure latest notifications to off-site agencies correctly portrayed present situation.
4. Assist the TSC Operations Manager in utilizing the Emergency Operating Procedures.
5. Inform the Emergency Coordinator that these activation steps have been completed.

### 5.3.2 Facility Operation

1. Follow the sequence of events through the associated EPIPs.
  - a. Ensure completion of applicable steps of 0-EPIP-20101, Duties of the Emergency Coordinator, as verification for the EC.
2. Assist in the determination of Emergency Action Level status.
3. Assist the Emergency Coordinator in developing Protection Action Recommendations (PARs) based on plant conditions from the TSC Operations Manager, and on Dose Projections from the TSC Chemistry Supervisor.
4. Ensure that Protection Action Recommendations made by FPL and Protection Action Recommendations issued by government agencies are posted on the 10-Mile EPZ Map in the management area of the TSC.
5. Assist the TSC Operations Manager in following Control Room actions through the Emergency Operating Procedures.
6. Provide SRO expertise for accident assessment functions, as necessary.
7. Assist the Emergency Coordinator with preparation for TSC briefings using Attachment 5 as necessary.
8. Maintain a log of activities.

### 5.4 The TSC Maintenance Manager should perform the following:

#### 5.4.1 Facility Activation

1. Conduct facility activation as detailed in Subsection 5.1 of this procedure.
2. Establish communication link with the OSC Manager using the phone number listed in the ERD.
3. Commence updating the TSC Team Tracking Board for teams previously or presently out in the plant (operators involved in mitigation activities, etc.) and ensure that this information is provided to the OSC Manager.
4. Update the Emergency Coordinator on the status of OSC activation.
5. Ensure the availability and readiness of company vehicles for Off-site ERT use, as necessary.
6. Inform the Emergency Coordinator that these activation steps have been completed.

**5.4.2 Facility Operation**

1. Inform the Emergency Coordinator when the OSC becomes operational.
2. Inform the OSC Manager when TSC briefings are taking place.
3. Communicate approved team requests to the OSC.
  - a. Record team activities in the logbook.
  - b. Periodically print out copies of the Team Tracking Board for review and retention.
  - c. Fax a printout of the TSC Team Tracking Board to the OSC as necessary.
4. Coordinate assigning priorities to team activities with the following applicable positions and provide the OSC Manager with assigned priorities:
  - a. Emergency Coordinator
  - b. TSC Supervisor
  - c. TSC Operations Manager
  - d. TSC HP Supervisor
  - e. TSC Chemistry Supervisor
  - f. TSC Lead Engineer
5. Provide TSC personnel with updates and results of team activities.
6. Ensure that the Team Tracking Board is maintained and updated in a timely manner.
  - a. Teams assigned multiple tasks should be updated as the tasks are completed in order to maintain accurate and current accountability of the teams.
7. Provide the OSC with pertinent information concerning team activities (i.e., when unit goes to recirculation, release identified, etc.) as it becomes available.
8. Communicate results of damage assessments to the Emergency Coordinator in a timely manner.
9. Maintain a log of activities.

5.5 The TSC Operations Manager should perform the following:

5.5.1 Facility Activation

1. Conduct facility activation as detailed in Subsection 5.1 of this procedure.
2. Establish a three-way communication link with the Control Room and the Technical Support Group.
  - a. Establish Control Room communications by calling the appropriate extension (refer to ERD).
  - b. Place the Control Room on hold by depressing the conference button.
  - c. Establish TSC Technical Support Communications by dialing the Tech Support Extension (Refer to ERD).
  - d. When TSC Tech Support Communications are established, establish conference call with the Control Room by again pressing conference button.
  - e. Conference call should be established with the Control Room, TSC Operations Manager, and the TSC Technical Support Group.

**NOTE**

*Pressing the Handsfree Mute button, after the speakerphone is operational, will mute the Speakerphone microphone and provide Listen Only capability.*

- f. Handsfree communications may be established by pressing the Handsfree mute button and hanging up the handset.
    - g. Ensure the TSC Tech Support Group's phone is in Listen Only mode (i.e., with microphone off).
    - h. If the TSC Chemistry Supervisor is monitoring the Tech Support Extension, ensure Chemistry/HP phone is in Listen Only mode also.
3. Determine the status of turnover of the plant operators from the Control Room.
4. Notify the Control Room when the TSC/OSC are activated to ensure operators and other teams will commence receiving direction from the TSC/OSC.



**5.5.1 (Cont'd)**

5. Determine status of jobs being performed/completed by Operations personnel and relay information to the TSC Maintenance Manager and Control Room.
6. Upon turnover of notification/communication duties from the Control Room to the TSC, request the designated Control Room Communicator to monitor the radio channel in use by the field operators, and provide status and updates to the Control Room staff.
7. Inform the Emergency Coordinator that these activation steps have been completed.

**5.5.2 Facility Operation**

1. Control Room requests for mitigating accidents should be given the highest priority to ensure successful and timely completion of EOP activities.
  - a. Document requests for teams from the Control Room in the logbook and forward requests to the TSC Supervisor.
2. Update the Control Room on the team activities in the OSC.
3. Act as a liaison between the TSC, OSC, and the Control Room.
  - a. Provide feedback to the Control Room on the status of team activities.
  - b. Communicate results of damage assessments to the Emergency Coordinator in a timely manner.
4. Follow Control Room actions through the Emergency Operating Procedures and provide the TSC Maintenance Manager with requests for teams from the EOP's.
5. Assist in the determination of Emergency Action Level status.
6. Provide plant condition information to the Emergency Coordinator for development of Protective Action Recommendations.
7. **IF** the emergency involves a security response, **THEN** designate a Licensed Operator to serve as a liaison in SAS/CAS, as needed.

5.6.1 (Cont'd)**CAUTION**

*50.54(x) procedure deviations should be discussed between the EC and the NRC staff prior to implementation.*

8. Document any use of 50.54(x) in accordance with 0-ADM-207, Operations Instructions, in the Event of a Situation Not Addressed by Procedure, and ensure deviations are communicated to the Control Room.
9. Maintain a log of activities.

5.6 The TSC Health Physics Supervisor should perform the following:

5.6.1 Facility Activation

1. Conduct facility activation as detailed in Subsection 5.1 of this procedure.
2. Verify the operability of the continuous air monitor using 0-HPT-013.3, CALIBRATION AND OPERATION OF THE EBERLINE BETA AIR MONITORING SYSTEM MODEL AMS-3(A).
3. Upon arrival of the TSC HP OSC Communicator, ensure communication is established with the OSC HP Communicator.
4. Upon arrival of the HPN Communicator, ensure communication is established with the NRC, as required.
  - a. Record transmitted information in the HPN Communicator logbook.
5. Determine the need for and the availability of the Off-site Emergency Response Teams.
6. Ensure the TSC Off-site Team Leader establishes communications with the Off-site Emergency Response Teams, as needed.
7. Acquire significant meteorological and radiological data for off-site radiological assessment from ERDADS (R3) or the Control Room.
8. Commence updating the Area Radiation Monitor Status Board.

5.6.1 (Cont'd)**NOTE**

*NRC responders will have government issued dosimetry with them.*

9. Provide dosimetry to responders, as required.
10. Establish a radiological control point for the TSC, as necessary.
11. Verify operability of the TSC HP/Chemistry fax machine.
12. Inform the Emergency Coordinator that these activation steps have been completed.

**5.6.2 Facility Operation**

1. Periodically assess habitability and dose rates within the TSC.
2. Ensure the OSC Manager dispatches an on-site re-entry team, as necessary, to perform surveys of the areas being inhabited during the emergency, i.e., Control Rooms, TSC, OSC, CAS, and SAS.
3. Ensure TSC staff check personal dosimetry approximately once every thirty minutes.
4. Ensure adequacy of HPN communications.
5. Update the Off-site Emergency Response Teams at a minimum of once an hour or as conditions change or information becomes available.
6. Ensure the TSC Offsite Team Leader is coordinating FPL off-site emergency response teams with Department of Health - Bureau of Radiation Control field teams through the EOF Field Monitoring Coordinator, as necessary.

**NOTE**

*Status Boards should be updated approximately every 15 minutes or as necessary.*

7. Ensure that the Area Radiation Monitor Board is maintained and updated in a timely manner.

**Technical Support Center (TSC)  
Activation and Operation****5.6.2 (Cont'd)**

8. Update the OSC as conditions change or information becomes available by using the fax machine or telephone.
9. Review team requests pertaining to Health Physics activities and forward to the TSC Supervisor.
10. Upon notification of a release, or the need to evacuate the site, determine evacuation route as needed.
  - a. Ensure the Assembly Area Supervisor is dispatched to the appropriate assembly area prior to the evacuation order.
11. Update the Emergency Coordinator on a periodic basis (approximately every 30 minutes, or as significant changes occur).
12. Maintain a log of activities.

**5.7 The TSC Chemistry Supervisor should perform the following:****5.7.1 Facility Activation**

1. Conduct facility activation as detailed in Subsection 5.1 of this procedure.
2. Upon arrival of the TSC Dose Assessment Technician ensure Off-site Dose Calculations are initiated, in accordance with 0-EPIP-20126, OFF-SITE DOSE CALCULATIONS.
3. Acquire significant meteorological and radiological data for accident assessment purposes, using the most accurate and reliable source in accordance with 0-EPIP-20126, OFF-SITE DOSE CALCULATIONS.
4. Upon arrival of the TSC Dose Assessment Recorder, ensure updating of the Dose Assessment and Process Radiation Monitor Status Boards are initiated using ERDADS printout Off-site Dose Radiological Data (R3).
5. Determine status of previous dose assessment activities from the on-shift Chemistry Technician, if applicable.
6. Fax completed dose calculation information to the EOF for use during activation.

5.7.1 (Cont'd)**NOTE**

*The Chemistry/HP Group has the capability to monitor Control Room activities to ensure awareness of problems encountered and actions being taken.*

7. If a Listen Only communication link between the Control Room and the TSC Operations Manager is desired, perform the following:

**NOTE**

*This communication link can only be established if Extension 6464 on the Chemistry Supervisor's phone is lit. The handset should not be lifted.*

- a. Press the button for Extension 6464.
  - b. Press the Handsfree Mute button for Listen Only capability.
  - c. Adjust volume
8. Inform the Emergency Coordinator that these activation steps have been completed.

5.7.2 Facility Operation

1. Ensure off-site dose calculations are performed in accordance with 0-EPIP-20126, OFF-SITE DOSE CALCULATIONS, as conditions change and in conjunction with the EOF.
2. Acquire and analyze the results of Chemistry sampling data.

**NOTE**

*Status Boards should be updated approximately every 15 minutes or as necessary.*

3. Ensure that the Process Radiation Monitor and Dose Assessment Status Boards are maintained and updated in a timely manner.
4. Review team requests pertaining to Chemistry activities and forward to the TSC Supervisor.

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**5.7.2 (Cont'd)**

5. Provide the Emergency Coordinator with briefings approximately every 30 minutes on dose assessment activities and results, or as significant changes occur.
6. Provide applicable data to the Emergency Coordinator for the determination of protective action recommendations based on off-site dose projections approximately every 30 minutes or as necessary.
7. Update the 10-Mile EPZ Map in the HP/Chemistry area with the Protective Action Recommendations issued to the public.
8. Provide offsite dose calculation information to the TSC Technical Support Group during implementation of SAMG.
9. Maintain a log of activities.

**5.8 The TSC Dose Assessment Technician should perform the following:**

**5.8.1 Facility Activation**

1. Conduct facility activation as detailed in Subsection 5.1 of this procedure.
2. Initiate Off-site Dose Calculations in accordance with 0-EPIP-20126, OFF-SITE DOSE CALCULATIONS.

**5.8.2 Facility Operation**

1. Perform off-site dose calculations in accordance with 0-EPIP-20126, OFF-SITE DOSE CALCULATIONS.
2. Ensure all previous dose calculation paperwork is faxed to the EOF to expedite EOF activation.
3. Provide applicable data to the TSC Chemistry Supervisor for the determination of Protection Action Recommendations.
4. Coordinate dose assessment with the EOF.

**5.9 The TSC Security Supervisor should perform the following:**

**5.9.1 Facility Activation**

1. Conduct facility activation as detailed in Subsection 5.1 of this procedure.
2. Determine present status of Security Force activities by completing the appropriate sections of a form similar to Attachment 3.
3. Commence updating the Security Status Board with security activities.
4. Upon arrival of the TSC Security Officer, ensure access to and egress from the TSC is controlled, and assistance is given in the maintenance of TSC accountability.
5. Ensure the Security Officer is present in the OSC and performing the following duties:
  - a. Referencing 0-EPIP-20133, Operations Support Center (OSC) Activation and Operation for outlined responsibilities.
  - b. Controlling the protected area and vital area keys.
  - c. Controlling access to and egress from the OSC.
  - d. Initiating the OSC Staff Accountability Log.
6. Ensure accountability within the facility has been established and is maintained, and that a form similar to Attachment 6 has been initiated.
7. For Security related, operational issues, coordinate with the TSC Operations Manager for the dispatch of a licensed operator to respond to the Security Command Post as Security Command Post Operations.
8. Inform the Emergency Coordinator that these activation steps have been completed.

**5.9.2 Facility Operation**

1. Implement, and ensure the Security Force has implemented SFI-6307, Emergency Evacuation and Accountability, as necessary.

**Technical Support Center (TSC)  
Activation and Operation****5.9.2 (Cont'd)**

2. Ensure the TSC Staff Accountability Board is maintained and a form similar to Attachment 6 is completed.
  - a. Upon completion of the TSC Staff Accountability Log (form similar to Attachment 6), complete a Security Accountability Sheet (form similar to Attachment 7) and fax or deliver to the Secondary Alarm Station.
3. Ensure the Security Events Status Board is updated in a timely manner.
4. Provide an initial accountability report to the Emergency Coordinator within 30 minutes of a Site Evacuation Announcement in accordance with SFI-6307, EMERGENCY EVACUATION AND ACCOUNTABILITY.
5. Coordinate security activities with other departments as applicable.
6. Provide the Emergency Coordinator with briefings on the status of security activities (i.e., Site Evacuation, accountability results, etc.).
7. Provide assistance to local law enforcement agencies, as directed by the EOF Security Manager.
8. Recommend to the Emergency Coordinator, when appropriate, the suspension of some or all safeguards. Ensure use of 50.54(x) is coordinated with the TSC Operations Manager.
9. Coordinate off-site security assistance through the EOF Emergency Security Manager.
10. Maintain a log of activities.

**5.10 The TSC Licensed Operator should perform the following:****5.10.1 Facility Activation**

1. Conduct facility activation as detailed in Subsection 5.1 of this procedure.

**5.10.2 Facility Operation**

1. Provide operational information and guidance to the TSC Technical Support personnel, and other personnel, as necessary, to effectively coordinate Technical Support activities with Operations and other emergency response personnel.
2. Monitor the status of the unaffected unit and report any operational concerns to the TSC Lead Engineer and the TSC Operations Manager.



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**5.11 The TSC Plant Data Status Board Keeper should perform the following:**

**5.11.1 Facility Activation**

1. Conduct facility activation as detailed in Subsection 5.1 of this procedure.
2. Begin updating the Plant Data Status Board using the guidelines found in Enclosure 3.

**5.11.2 Facility Operation**

1. Maintain the Plant Data Status Board up-to-date using the guidelines found in Enclosure 3.
2. Ensure appropriate emergency classification sign is posted.

**5.12 The TSC Plant Data Communicator should perform the following:**

**5.12.1 Facility Activation**

1. Conduct facility activation as detailed in Subsection 5.1 of this procedure.
2. Establish an open line of communication with the control room.
3. Obtain copies of the Emergency Coordinator Logbook and other applicable information (e.g., Equipment Out of Service Log, events occurring prior to facility activation, etc.) from the control room via fax, LAN, or other means.
4. Provide the Equipment Out of Service information and other pertinent information to the TSC Maintenance Manager for transmittal to the OSC Manager.
5. Update the Sequence of Events Board, including all events and activities that have occurred up to this point, using the guidelines found in Enclosure 3.

**5.12.2 Facility Operation**

1. Maintain an open line of communication with the control room.
2. Continue updating the Sequence of Events Board, using the guidelines found in Enclosure 3.
3. Provide clarification of data and/or obtain additional data as requested by the TSC.

**5.13 The TSC ENS Communicator should perform the following:****5.13.1 Facility Activation****NOTES**

- *Emergency notification to the NRCOC of a declared event is required to follow state/county notifications within one hour.*
- *Notifications should be made every hour unless updates are agreed to be less frequent, upon termination, or as conditions change (PARs, changes to classifications, significant changes to plant conditions, etc.).*
- *Alternate commercial telephone numbers for the State of Florida and NRC notifications are listed in the Emergency Response Directory (ERD).*
- *Collection of Release Rate data shall not delay State of Florida and NRC notifications. If the data is not available, notification shall be made and followed up as soon as the information is available.*
- *Data for completion of notification forms is obtained from ERDADS printouts and Health Physics/Chemistry Personnel.*
- *If a transitory event has occurred, notifications are still required using this procedure.*

1. Conduct facility activation as detailed in Subsection 5.1 of the procedure
2. Acquire copies of the NRC Event Notification Worksheet (form similar to Attachment 2) from the Document Control Files.
3. Verify the operability of the TSC Operations fax machine.

**NOTE**

*Communications and notifications turnover information does not have to be obtained directly from the communicator who is turning over responsibilities. Turnover information can be obtained from any available source in order to expedite facility activation. Minimum information should include time, type and content of notification last made to State Warning Point and the NRCOC.*

4. Receive turnover from the Control Room Shift Communicator.
  - a. Time of last update
  - b. Time requirement for next update
  - c. Fax copies of previous NRC Event Notification Worksheets.

**5.13.2 Facility Operation**

1. Maintain an open line of communication and a transmission log, as necessary.
2. Ensure notifications are initiated within one hour (immediately following State and County notification) of a classification /PAR change or other significant event.
3. Request the TSC Technical Assistant to Emergency Coordinator to log notification times.
4. Log all questions asked by the NRC.
5. Obtain answers to questions from appropriate TSC staff member.
6. Obtain EC approval prior to providing additional information to the NRC.

**5.14 The TSC State/County Communicator should perform the following:****5.14.1 Facility Activation****NOTE**

- *Emergency notification to the State Warning Point of a declared event is required within 15 minutes.*
- *Follow-up notifications should be made every hour unless updates are agreed to be less frequent, upon termination, or as conditions change (PARs, changes to classifications, significant changes to plant conditions, etc.)*
- *Alternate commercial telephone numbers for the state Warning Point are listed in the Emergency Response Directory (ERD).*

1. Conduct facility activation as detailed in Subsection 5.1 of this procedure.
2. Acquire copies of the Florida Nuclear Plant Emergency Notification Form (form similar to Attachment 1) from the Document Control Files.

5.14.1 (Cont'd)**NOTE**

*Communications and notifications turnover information does not have to be obtained directly from the communicator who is turning over responsibilities. Turnover information can be obtained from any available source in order to expedite facility activation. Minimum information should include time, type and content of notification last made to State Warning Point and the NRCOC.*

## 3. Receive turnover from the Control Room Shift Communicator.

- a. Time of last update
- b. Time requirement for next update
- c. Fax copies of previous Florida Nuclear Plant Emergency Notification Forms

5.14.2 Facility Operation**NOTE**

*Notification forms should be filled out as neatly and completely as possible. Abbreviations should not be used.*

1. When notifications to the State Warning Point are required, complete a form similar to Attachment 1, as required.
  - a. Verify data on form is accurate with appropriate TSC personnel.
  - b. Obtain Emergency Coordinator approval by having him/her review and initial the form similar to Attachment 1.

**NOTE**

*0-EPIP-20101, Duties of the Emergency Coordinator, should be referenced for notification update requirements.*

## 2. Establish communications with the State Warning Point, as required.

- a. Contact the State Warning Point using the telephone numbers on the telephone (also listed in the Immediate Notification Section of the ERD).

5.15 The TSC Site Corporate Communicator should perform the following:

5.15.1 Facility Activation

1. Conduct facility activation as detailed in Subsection 5.1 of this procedure.
2. Establish the TV monitoring system and verify audio and visual operability, using Enclosure 2.
3. Through the TSC Maintenance Manager, inform the OSC Supervisor to set the OSC TV monitors to the appropriate channel for message reception (Channel 8).
4. Through the EOF Administrative Supervisor, verify reception of the transmission at the EOF.

5.15.2 Facility Operation

1. Focus the camera on the TSC sequence of events board.
2. Periodically pan over to the OSC Team Tracking Board.
3. Focus the camera on the Emergency Coordinator during TSC briefings.

5.16 The TSC EOF Communicator should perform the following:

5.16.1 Facility Activation

1. Conduct facility activation as detailed in Subsection 5.1 of the procedure.
2. Establish communication with the EOF TSC Communicator when the EOF is activated.
3. Fax copies of the Emergency Coordinator Logbook, completed State and NRC Notification Forms and other applicable information to the EOF for their use upon EOF activation. Acquire State Warning Point and NRCOC notification forms and fax to the EOF.
4. Ensure the EOF has received documentation necessary for facility activation.

5.17 The TSC Lead Engineer should perform the following:

5.17.1 Facility Activation

1. Conduct facility activation as detailed in Subsection 5.1 of this procedure.

**NOTE**

*The TSC Technical Support Group should monitor Control Room activities to ensure awareness of problems encountered and actions are being taken.*

2. Establish a listen only communications link with the Control Room via conference call with the TSC Operations Manager.
  - a. The TSC Operations Manager should initiate the three-way conference call.
  - b. After the conference call has been established:
    - (1) Press the Handsfree Mute button to initiate speakerphone.
    - (2) Press the Handsfree Mute button for Listen Only capability.
    - (3) Hang up the handset.
  - c. Adjust volume.
3. Assign a member of the Technical Support Group to establish communications with the EOF Engineering Staff when the EOF is activated.
4. Upon arrival of the TSC Station Area Operations Supervisor, ensure that the System Control Center computer link is established and Off-site Electrical Transmission System Status is monitored and reported, as required.
5. Upon arrival of the TSC Reactor Engineer, ensure the Core Damage Assessment computer is operational.

**NOTE**

*No requests should be made to the OSC for teams from this open line. This line is to be used to provide maintenance information to the Technical Support Group or provide Engineering assistance to the Maintenance personnel in the OSC.*

6. Ensure the TSC Maintenance/Engineering Liaison establishes communications with the OSC Re-entry Coordinator.

**Technical Support Center (TSC)  
Activation and Operation****5.17.1 (Cont'd)**

7. Designate a member of the TSC Technical Support Group to monitor CETs.
  - a. If CETs are greater than 1200° F and actions to cool the core are not successful, consult with the TSC Operations Manager and the EC on the need to implement SAMG's.
  - b. Upon implementation of SAMG's, assign an individual to update the SAMG status board.
8. Assign an individual to commence updating the Technical Staff Task Assignment Board.
  - a. Occasionally update the EOF Engineering Staff via phone or Fax of Task Board Printout.
9. Ensure Speed Memos are available to the Technical Staff.
10. Inform the Emergency Coordinator that these activation steps have been completed.

**5.17.2 Facility Operation**

1. If there is an indication of actual or potential fuel damage:
  - a. Ensure 0-EPIP-1302, PTN Core Damage Assessment, is being implemented by the TSC Reactor Engineer.
  - b. Consider providing quick estimates by use of the graphs.
  - c. Ensure that core damage assessment results are communicated to:
    - (1) Emergency Coordinator
    - (2) TSC Supervisor
    - (3) TSC Operations Manager
    - (4) TSC Chemistry Supervisor
2. If off-normal high airborne particulates are present in the outside air due to grass fires, dust, etc., perform shift surveillance of the TSC Emergency Ventilation System Filters by reading the associated instrumentation in the TSC Air Conditioning Room, and record required data on Attachment 4.
  - a. If any limits in Attachment 4 are exceeded, notify the TSC Supervisor and develop a corrective action plan.

5.17.2 (Cont'd)

3. Ensure adequacy of Engineering and Technical Support communications.
4. Ensure that the Technical Staff Task Assignment Board is kept current. (Tasks assigned to personnel in the Technical Support Group.)
5. Review team requests originating from the Technical Staff and forward to the TSC Supervisor.
6. Review team requests returning to the Technical Staff and disseminate information requested.
7. Ensure Off-site Electrical Distribution System status is monitored and reported, as required.
8. When determining release paths, ensure accuracy of determination prior to terminating the release path search.

**CAUTION**

*50.54(x) procedure deviations should be discussed between the EC, TSC Operations Manager and the NRC staff prior to implementation.*

9. Document any use of 50.54(x) in accordance with 0-ADM-207, OPERATIONS INSTRUCTIONS IN THE EVENT OF A SITUATION NOT ADDRESSED BY PROCEDURE, and ensure deviations are communicated to the Control Room through the TSC Operations Manager.
10. Monitor Technical Staff operation and continued interaction.

**NOTE**

*The Hydrogen Recombiner is required to be installed within 12 days of initiation of a Large Break LOCA or if hydrogen levels are expected to approach 4 percent.*

11. If needed, the hydrogen recombinder should be requested as soon as possible.
  - a. Refer to the ERD for the telephone number and the contact at Duke Power in order to make arrangements to acquire the Hydrogen Recombiner.
12. Communicate results of damage assessments to the Emergency Coordinator in a timely manner.



5.17.2 (Cont'd)

13. Provide Technical Support Group expertise to the OSC through the TSC Maintenance Coordinator.
14. Maintain a log of activities.

5.18 The TSC Tech Support Group should perform the following:

**NOTE**

*The Technical Support Group consists of the TSC Lead Engineer, Mechanical Engineer, Electrical/I&C Engineer, Reactor Engineer, Engineering/Maintenance Liaison, Fire Protection Supervisor, Station Area Operations Supervisor, Licensed Operator Support.*

5.18.1 Facility Activation

1. Conduct facility activation as detailed in Subsection 5.1 of this procedure.

5.18.2 Facility Operation

1. Participate as a member of the Technical Support Group by providing technical support in your area of expertise.
2. Evaluate system and equipment failures.
3. Propose mitigative and corrective actions as promptly as possible.
4. Provide recommendations to the Emergency Coordinator.
5. Provide a communications path between the TSC Technical Support Group and the OSC Re-entry Coordinator.

5.19 The TSC ERDADS Operator should perform the following:

5.19.1 Facility Activation

1. Conduct facility activation as detailed in Subsection 5.1 of this procedure.
2. Verify the operability of ERDADS as follows:
  - a. Check that the following displays are available:
    - (1) Off-site Dose Radiological Data (R3/4)
    - (2) Emergency Plan Data (ED3/4)

**5.19.1.2.a (Cont'd)**

- (3) Environmental Trends (MC3/4 ENV)
- (4) Meteorological Parameter Verification (EP3/4 ENV)
- (5) PTN Status Units 3 & 4 (U3/4)
- b. Check the operability of the color plotter.
- c. Check the operability of the line printer.

**5.19.2 Facility Operation**

- 1. Provide ERDADS printouts to TSC personnel, as requested.
- 2. Provide ERDADS Emergency Plan Data (ED3) printouts to TSC Document Control personnel for distribution in a timely manner.

**5.20 The TSC Document Control Personnel should perform the following:**

**5.20.1 Facility Activation**

- 1. Conduct facility activation as detailed in Subsection 5.1 of this procedure.

**5.20.2 Facility Operation**

- 1. Provide assistance to TSC personnel in obtaining controlled procedures, drawings, and documents.
- 2. Provide assistance to TSC personnel in making copies, routing Speed Memos, forms and information, etc., as required.
- 3. Distribute ERDADS printouts of plant parameters and data obtained from the TSC ERDADS Operator in a timely manner to the following:
  - a. Emergency Coordinator
  - b. TSC Plant Data Status Board Keeper
  - c. TSC Technical Support Group
  - d. OSC (via fax)

5.21 The TSC Fire Protection Supervisor should perform the following:

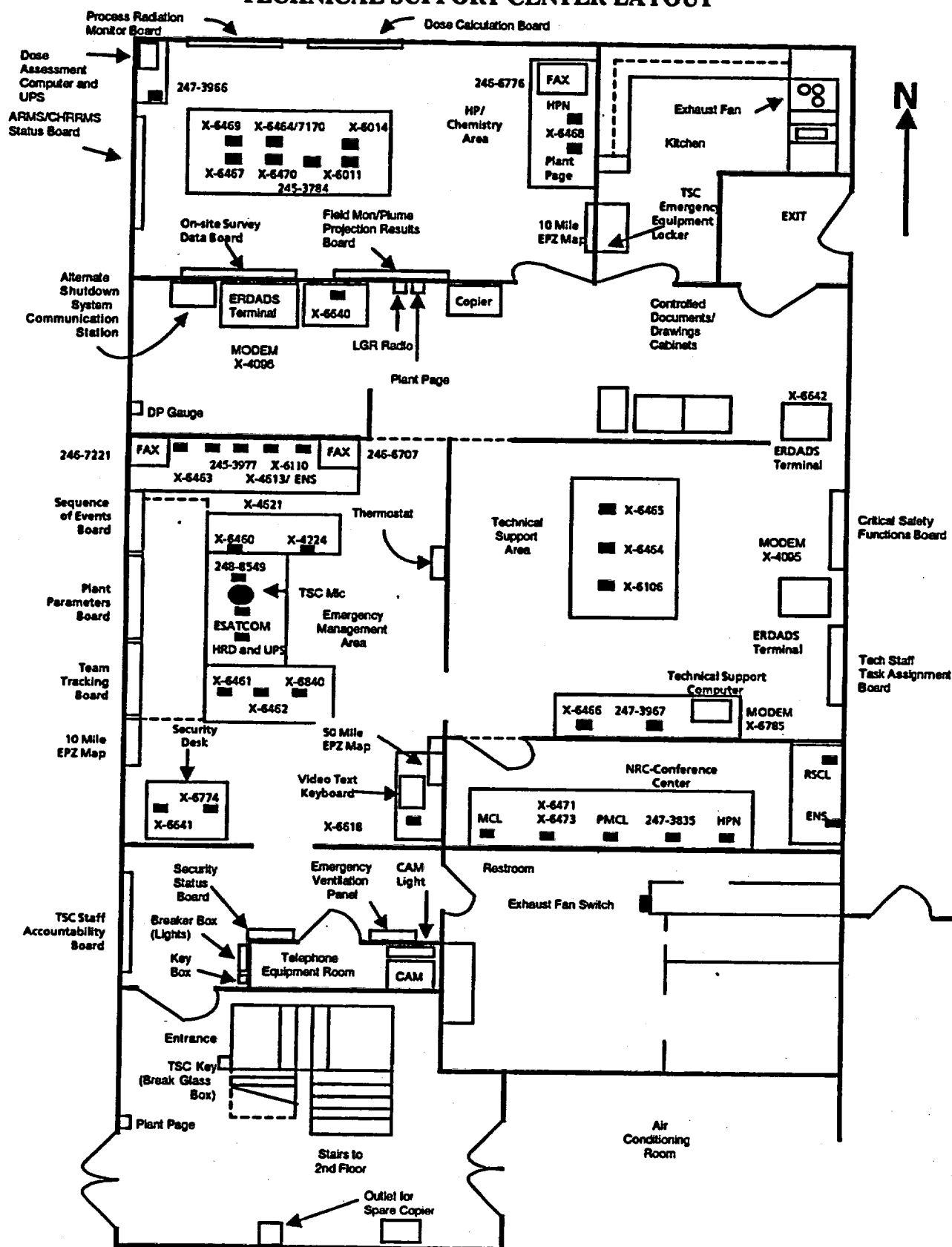
5.21.1 Facility activation

1. Conduct facility activation as detailed in Subsection 5.1 of this procedure.

5.21.2 Facility Operation

1. Monitor the fire brigade response
2. Ensure that, as needed, off-site support is responding.
3. Acquire additional equipment/support as needed.
4. Review pre-fire plan of the effected areas and provide input to the emergency coordinator.

END OF TEXT



ENCLOSURE 1  
(Page 1 of 2)

## EMERGENCY RESPONSE DATA SYSTEM OPERATION

**NOTE**

*Activation of the Emergency Response Data System (ERDS) is required as soon as possible within one hour of the declaration of an Alert or higher emergency classification level. ERDS can be started from any terminal.*

## 1. ERDS Activation

**NOTE**

*For ERDS activation, ensure ERDADS Opcon is monitoring the effected unit.*

- a. Press <CLEAR> function key.
- b. Type the following command if the Opcon is not monitoring the effected unit: PUP Unit X <EXEC>; (where X is the effected unit.)
- c. Press <CLEAR> function key.
- d. Type NRC <DSPLY> on any ERDADS terminal.
- e. Page-up to observe status of NRC link.
- f. If NRC link is off-line, then continue. If NRC link in on-line, then ERDS activation is complete.
- g. Type NRC <DSPLY> on keyboard.
- h. Press <TAB+> function key to position cursor to the activation field.
- i. Press <ENTER> to start ERDS program.

## ENCLOSURE 1

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## EMERGENCY RESPONSE DATA SYSTEM OPERATION

## 2. ERDS Deactivation

**NOTE***Normally the NRC Operations Center will determine when the ERDS link is terminated*

- a. Press <CLEAR> function key.
- b. Insure Opcon is selected to effected unit.
- c. Type NRC
- d. Press <DSPLY> function key.
- e. Press <TAB+> function key to position cursor to the deactivation field.
- f. Type 0 in the deactivation field.
- g. Press <ENTER> to stop ERDS program.

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**ENCLOSURE 2**  
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**VERIFICATION AND OPERABILITY CHECK  
FOR THE TV MONITORING SYSTEM**

**NOTE**

*The Emergency Video Signal is broadcast to the plant site on Channel 8. The signal source for this channel is a 1/2 inch VCR located in the Video Editing Suite, First Floor Nuclear Administration Building, Room 1420. The VCR serving Channel 8 is mounted in the vertical equipment rack. A label reading Channel 8-VTR-3 identifies the subject VCR.*

1. Verify Emergency Video System signal by performing the following:

- a. Tune any hallway monitor to Channel 8.

**NOTE**

*The test pattern has Studio 40 on the first line followed by the alphabet on succeeding lines.*

- b. If the test pattern appears on the monitor, proceed to the TSC and go to Step 2 of this enclosure.
- c. If something other than the test pattern appears, or if no pattern appears, proceed to the video editing suite to check the VCR signal.
- (1) Tune monitor labeled RF System Monitor and Charger/edit to Channel 8.
- (2) Make sure Channel 8 VCR is on.

**NOTE**

*Playing a tape in VTR-3 will void TSC signal.*

- (3) Stop any tape that may be playing in the machine.
- (4) Check cable in rear of VTR-3. Cables with two blue strips of tape should be plugged to inputs labeled video in and audio in.

## ENCLOSURE 2

(Page 2 of 2)

VERIFICATION AND OPERABILITY CHECK  
FOR THE TV MONITORING SYSTEMNOTE

*Phone jack carrying TSC signal is labeled A-130. Phone line plugged into jack is marked with two blue strips of tape. Phone line travels to a converter box under edit console marked with two blue strips of tape. Video cable coming out of box is similarly identified.*

- (5) If test pattern does not appear, check cable at phone line serving room. Make sure all connections are secure.
  - (6) If no picture appears on Channel 8, contact the Site Corporate Communications Representative.
2. After the Emergency Video System signal has been verified operable, or if directed by the TSC Supervisor, proceed to the Technical Support Center.
- a. Ensure power is on to the video keyboard.
  - b. Turn power on to the view monitors
  - c. Position the TSC video camera to relay pertinent information to the OSC and EOF (e.g., plant parameters, EC Briefings, etc.)
  - d. Verify broadcast signal (i.e., what the plant is seeing) by viewing Panasonic Monitor on desk.
  - e. To type and store video text, follow instructions on keyboard or refer to manual in desk drawer.
  - f. To send video text to plant, press **Program On** key.
  - g. To send video from camera to plant, disengage **Program On** key.
- (1) If camera signal does not appear on Panasonic monitor, press **Control + X**.



**ENCLOSURE 3**

(Page 1 of 1)

**GUIDELINES FOR MAINTAINING TSC STATUS BOARDS**

1. Responsibilities for maintaining each TSC Status Board are specified in Enclosure 4.
2. Obtain required information for the appropriate status board.
  - a. Utilize ERDADS if the information is available on ERDADS and the ERDADS display is available.
    - (1) Plant Data Status Board Keeper uses the Emergency Plan Data (EP3) display.
    - (2) Dose Assessment Status Board Keeper uses off-site Radiological Data (R3) display.
    - (3) TSC Health Physics Supervisor uses Off-site Radiological Data (R3) display.
    - (4) Other status board keepers use ERDADS displays, as necessary.
  - b. If ERDADS is not available:
    - (1) Verify the TSC Supervisor and TSC ERDADS Operator are aware that ERDADS is not available.
    - (2) Collect necessary information using attached status board worksheets, if applicable.
3. All status board keepers should ensure that status boards are updated in a timely manner.
  - a. All status boards, should generally be updated approximately every fifteen minutes.
  - b. More frequent updates may be necessary if conditions are changing rapidly.
  - c. Less frequent updates may be appropriate if conditions are changing slowly or are stable.
  - d. Status boards should always be updated at least every hour.

**ENCLOSURE 4**

(Page 1 of 1)

**TSC STATUS BOARD MAINTENANCE RESPONSIBILITIES**

The following status boards should be maintained by personnel filling the indicated position. Alternate assignments may be made, as necessary. Status Boards should be updated frequently (approximately every 15 minutes OR more frequently than every 15 minutes during significant transient events) and the information on the board should be correct and current.

**Status Board****Position**

TSC Staff Accountability

TSC Security Supervisor

Security Events

TSC Security Supervisor

 10-Mile EPZ  
(in Management Area)

Technical Assistant to the EC

Team Tracking

TSC Maintenance Manager

Plant Equipment

TSC Plant Data Status Board Keeper

Sequence of Events

TSC Plant Data Communicator

Area Radiation Monitor

TSC Health Physics Supervisor

Process Radiation Monitor

TSC Dose Assessment Recorder

Dose Assessment

TSC Dose Assessment Recorder

Field Team Tracking

TSC Off-site Team Leader

Survey Results

TSC HP OSC Communicator

 10-Mile EPZ Map  
(in HP/Chem Area)

TSC Chemistry Supervisor

Critical Safety Functions

TSC Lead Engineer

Task Assignments

TSC Lead Engineer

SAMG Board

TSC Lead Engineer

**ENCLOSURE 5**

(Page 1 of 1)

**USE OF SPEED MEMOS**

- A. Speed Memos should be used for the following functions:
1. Team requests.
  2. Information/task requests.
  3. Relaying information.
- B. Speed memos should be handled in the following manner:
1. The requester should give the speed memo to the lead supervisor in his/her area.
  2. The requester's lead supervisor should give the speed memo to the TSC Supervisor.
  3. The TSC Supervisor should present all team request speed memos to the EC for approval and establishment of priority before forwarding to the TSC Maintenance Manager.
  4. The TSC Supervisor should forward all other speed memos to the responsible manager or lead supervisor of the group who will perform the requested task.

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**ENCLOSURE 6**  
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**CONTROL OF RE-ENTRY TEAMS**

The Emergency Coordinator should control team requests in the TSC as follows:

1. Actions directed by Emergency or Off-Normal Operating Procedures (EOPs or ONOPs, respectively) which are required to mitigate the effects of an accident or event do not require formal team request approval, because these actions are previously reviewed and approved by the normal procedure approval process.
  - a. Teams assigned to perform tasks in accordance with EOPs or ONOPs should be documented and tracked for accountability.
2. Urgent situations such as personnel rescue, fire response or medical emergencies are exempt from this process, but should still be controlled as much as possible depending on the event.
3. Personnel receiving exposures anticipated being in excess of 10 CFR 20 limits should be volunteers familiar with the consequences of the radiological exposure.
4. Emergency exposures shall be limited to once in a lifetime for any individual.
5. Females of childbearing age shall not be permitted to receive exposures in excess of 10 CFR 20 limits.
6. Requests for actions to be performed by re-entry teams such as valve operations, repairs, damage assessments, chemistry samples, radiation monitoring, etc. should be documented in the TSC on the Team Tracking Board and in the logbooks.
7. Non-ERO personnel who may be requested to perform damage assessments, QC verifications, etc., should be utilized as part of an ERO-qualified team whose members are familiar with plant layout and can provide appropriate radiological monitoring support.
8. Any team requests should be coordinated through the TSC Supervisor for presentation to the Emergency Management Staff.
9. The Emergency Coordinator, in consultation with the appropriate TSC Supervisors, should determine the feasibility and priority of team requests by evaluating the following:
  - a. Existing or potential hazards to re-entry members (electricity, toxic gases, obstructions, barriers, oxygen levels, etc.).
  - b. Time constraints to perform task.
  - c. The benefit of performing the task versus the risk associated.
  - d. Radiological data to determine plant areas actually or potentially affected by radiation or contamination.
10. The Emergency Coordinator or designee should authorize the TSC Maintenance Manager to request a re-entry team by verbal communication to the OSC Manager and forward the information by faxing a copy of the Team Tracking Board to the OSC.

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## ATTACHMENT 1

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## FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM

1. A. ☐ THIS IS A DRILL B. ☐ THIS IS AN ACTUAL EVENT
2. A. Time/Date contact made \_\_\_\_\_ B. Reported by: (Name/Title) \_\_\_\_\_
- C. Message Number \_\_\_\_\_ D. Reported from: ☐ Control Room ☐ TSC ☐ EOF
3. SITE A. ☐ CRISTAL RIVER UNIT 3 B. ☐ ST LUCIE UNIT 1 D. ☐ TURKEY POINT UNIT 3
- C. ☐ ST LUCIE UNIT 2 E. ☐ TURKEY POINT UNIT 4

4. ACCIDENT CLASSIFICATION A. ☐ NOTIFICATION OF UNUSUAL EVENT C. ☐ SITE AREA EMERGENCY
- B. ☐ ALERT D. ☐ GENERAL EMERGENCY

5. CURRENT EMERGENCY DECLARATION: TIME: \_\_\_\_\_ DATE: \_\_\_\_\_

6. REASON FOR EMERGENCY DECLARATION \_\_\_\_\_

7. ADDITIONAL INFORMATION OR UPDATE: \_\_\_\_\_

8. INJURIES REQUIRING OFFSITE SUPPORT: A. ☐ No ☐ Yes ☐ Unknown B. Contaminated: ☐ No ☐ Yes ☐ Unknown

9. WEATHER DATA: A. Wind direction from \_\_\_\_\_ degrees.

B. Downwind Sectors Affected (minimum of 3): \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

10. RELEASE STATUS: A. ☐ No Release (Go to Item 12) C. ☐ A Release occurred, but stopped

B. ☐ A Release is occurring

11. OFFSITE RELEASE SIGNIFICANCE CATEGORY (at the Site Boundary)

- A. ☐ Information not available at this time
- B. ☐ Release within normal operating limits ( $\leq 2.8$  ci/sec noble gas,  $\leq 3.7$  E-4 ci/sec iodine)
- C. ☐ Non-Significant Fraction of PAG Range (release is  $>$  normal limits and  $< 500$  mR TEDE and 1000 mR CDE)
- D. ☐ PAG Range ( $\geq 500$  mR TEDE or  $\geq 1000$  mR CDE)

### 12. UTILITY RECOMMENDED PROTECTIVE ACTIONS

A. ☐ NONEB. ☐ SHELTER ZONES/AREAS: \_\_\_\_\_ (Not for FPL Use)

EVACUATE ZONES/AREA: \_\_\_\_\_ (Not for FPL Use)

OR C. ☐

MILES NO ACTION EVACUATE SECTORS SHELTER SECTORS

0 - 2

2 - 5

5 - 10

13. HAS EVENT BEEN TERMINATED?:

A. ☐ NOB. ☐ YES

Time \_\_\_\_\_

Date \_\_\_\_\_

14. SUPPLEMENTAL FORM IS ATTACHED?: A. ☐ NO B. ☐ YES

EC or RM Approval Signature \_\_\_\_\_

Time \_\_\_\_\_

Date \_\_\_\_\_

15. MESSAGE RECEIVED BY: Name \_\_\_\_\_

Time \_\_\_\_\_

Date \_\_\_\_\_

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## ATTACHMENT 1

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## FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM SUPPLEMENTAL DATA SHEET

The following supplemental data is to be completed after the TSC or EOF is declared operational at Alert of higher Supplement to Message Number \_\_\_\_\_

### PLANT CONDITIONS INFORMATION

#### CRITICAL SAFETY FUNCTIONS

- A. REACTOR SHUTDOWN? ☐ YES ☐ NO  
 B. CORE ADEQUATELY COOLED? ☐ YES ☐ NO  
 C. ADEQUATE EMERGENCY POWER AVAILABLE (DIESELS) ☐ YES ☐ NO

FISSION PRODUCT BARRIER STATUS: (Check one condition for each barrier)

BARRIER	INTACT	CHALLENGED	LOST	REGAINED
FUEL CLADDING	No indication of clad damage	Clad is intact but losing subcooling, water level, etc.	Clad has failed, indicated by high temps., high containment rad, etc	Cooling restored, no further degradation expected
PRI. REACTOR COOLANT SYSTEM	Leakage is within normal charging or makeup pump capacity	Leakage is within safety injection capacity	Leakage exceeds safety injection capacity	Leakage reduced to within injection capacity (system repaired)
CONTAINMENT	No evidence of containment leakage or tube rupture release is only through condenser	No leakage but containment pressure is at or above safety system actuation points	Evidence of containment leakage (known release path or rad surveys)	Repair Efforts have isolated leak or containment pressure has reduced to stop leakage

COMPLETED BY: \_\_\_\_\_ TIME: \_\_\_\_\_ DATE: \_\_\_\_\_

### RADIOLOGICAL DOSE ASSESSMENT DATA

1. RELEASE STATUS: A. ☐ No Release (no further data required) C. ☐ A Release occurred, but stopped  
 B. ☐ A Release is occurring

#### 2. RELEASE RATE:

- A. ☐ NOBLE GASES: \_\_\_\_\_ Curies per second ☐ Measured ☐ Default  
 B. ☐ IODINES: \_\_\_\_\_ Curies per second ☐ Measured ☐ Default

#### 3. TYPE OF RELEASE:

- A. ☐ AIRBORNE: Time/Date started: \_\_\_\_\_ Time/Date stopped: \_\_\_\_\_  
 B. ☐ LIQUID Time/Date started: \_\_\_\_\_ Time/Date stopped: \_\_\_\_\_

#### 4. PROJECTED OFFSITE DOSE RATE:

DISTANCE	THYROID DOSE RATE (CDE)	TOTAL DOSE RATE (TEDE)
1 Mile (Site Boundary)	A. _____ mrem/hr	B. _____ mrem/hr
2 Miles	C. _____ mrem/hr	D. _____ mrem/hr
5 Miles	E. _____ mrem/hr	F. _____ mrem/hr
10 Miles	G. _____ mrem/hr	H. _____ mrem/hr

#### 5. WEATHER DATA (used for the above data):

- A. Wind Direction from \_\_\_\_\_ degrees.  
 B. Wind Speed \_\_\_\_\_ MPH  
 C. Stability Class \_\_\_\_\_

COMPLETED BY: \_\_\_\_\_ TIME: \_\_\_\_\_ DATE: \_\_\_\_\_

Emergency Coordinator or Recovery Manager Approval \_\_\_\_\_

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KP/ev/ev

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**FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM**  
**METEOROLOGICAL WORKSHEET**

**SECTOR REFERENCE:**

The chart below can be used to determine sectors affected by a radiological release, through comparison with wind direction from the meteorological recorders in the Control Room.

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

**SECTOR INFORMATION:**

<u>WIND SECTOR</u>	<u>WIND FROM</u>	<u>DEGREES</u>	<u>WIND TOWARD</u>	<u>SECTORS AFFECTED</u>
[A]	N	348-11	S	HJK
[B]	NNE	11-33	SSW	JKL
[C]	NE	33-56	SW	KLM
[D]	ENE	56-78	WSW	LMN
[E]	E	78-101	W	MNP
[F]	ESE	101-123	WNW	NPQ
[G]	SE	123-146	NW	PQR
[H]	SSE	146-168	NNW	QRA
[J]	S	168-191	N	RAB
[K]	SSW	191-213	NNE	ABC
[L]	SW	213-236	NE	BCD
[M]	WSW	236-258	ENE	CDE
[N]	W	258-281	E	DEF
[P]	WNW	281-303	ESE	EFG
[Q]	NW	303-326	SE	FGH
[R]	NNW	326-348	SSE	GHJ

**STABILITY CLASSIFICATION REFERENCE:**

The below chart can be used to determine atmospheric stability classification for notification to the State of Florida. Primary method is from  $\Delta T$  via the South Dade (60 meter) tower. Backup method is from Sigma Theta via the Ten Meter Tower. If neither meteorological tower is available, Stability Classification shall be determined using data from National Weather Service (See 0-EPIP-20126, Off-site Dose Calculations).

**CLASSIFICATION OF ATMOSPHERIC STABILITY:**

<u>Stability Classification</u>	<u>Pasquill Categories</u>	<u>Primary Delta T (°F)</u>	<u>Backup Sigma Theta Range (Degrees)</u>
Extremely unstable	A	$\Delta T \leq -1.7$	$ST \geq 22.5$
Moderately unstable	B	$-1.7 < \Delta T \leq -1.5$	$22.5 > ST \geq 17.5$
Slightly unstable	C	$-1.5 < \Delta T \leq -1.4$	$17.5 > ST \geq 12.5$
Neutral	D	$-1.4 < \Delta T \leq -0.5$	$12.5 > ST \geq 7.5$
Slightly stable	E	$-0.5 < \Delta T \leq +1.4$	$7.5 > ST \geq 3.8$
Moderately stable	F	$+1.4 < \Delta T \leq +3.6$	$3.8 > ST \geq 2.1$
Extremely stable	G	$+3.6 < \Delta T$	$2.1 > ST$

Meteorological information needed to fill out the Florida Nuclear Plant Emergency Notification Form is available from the Dose Calculation Worksheet (0-EPIP-20126). The Worksheet shall be filled out by Chemistry and given to the Emergency Coordinator.

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**EVENT NOTIFICATION WORKSHEET**

NRC FORM 361		US NUCLEAR REGULATORY COMMISSION OPERATIONS CENTER	
<b>EVENT NOTIFICATION WORKSHEET</b>			
NOTIFICATION TIME	FACILITY OR ORGANIZATION	UNIT	CALLER'S NAME
		CALL BACK: ENS _____ OR ( ) _____	
EVENT TIME & ZONE	EVENT DATE / /	1-Hr Non-Emergency 10 CFR 50.72 (b) (1)	(v) Lost Offsite Comms
		(I) (A) TS Required S/D	(vi) Fire
POWER MODE BEFORE	POWER MODE AFTER	(I) (B) TS Deviation	(vi) Toxic Gas
		(III) Degraded Condition	(vi) Rad Release
		(II) (A) Unanalyzed Condition	(vi) Other Hampering Safe Op
Event Classifications		(II) (B) Outside Design Basis	4-Hr Non-Emergency 10 CFR 50.72 (b) (2)
		(II) (C) Not Covered by OPs/EOPs	(I) Degrade While S/D
GENERAL EMERGENCY		(III) Earthquake	(II) RPS Actuation (Scram)
SITE AREA EMERGENCY		(III) Flood	(II) ESF Actuation
ALERT		(III) Hurricane	(III) (A) Safe S/D Capability
UNUSUAL EVENT		(III) Ice/Hail	(III) (B) Rhr Capability
50.72 NON-EMERGENCY		(III) Lighting	(III) (C) Control of Rad Release
PHYSICAL SECURITY (73.71)		(III) Tornado	(III) (D) Accident Mitigation
TRANSPORTATION		(III) Other Natural Phenomenon	(IV) (A) Air Release >2X App B
20.403 MATERIAL/EXPOSURE		(IV) ECCS Discharge to RCS	(IV) (B) Liq Release >2X App B
OTHER		(v) Lost ENS	(v) Offsite Medical
		(v) Lost Emerg. Assessment	(vi) Offsite Notification

**DESCRIPTION**

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

NOTIFICATIONS NRC RESIDENT	YES	NO	WILL BE	ANYTHING UNUSUAL OR NOT UNDERSTOOD?	YES (Explain above)	NO
STATE(s)				DID ALL SYSTEMS FUNCTION AS REQUIRED?	YES	NO (Explain above)
LOCAL						
OTHER GOV AGENCIES				MODE OF OPERATION UNTIL CORRECTED	ESTIMATE FOR RESTART DATE:	ADDITION INFO ON BACK?



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**EVENT NOTIFICATION WORKSHEET**

NRC FORM 361

ADDITIONAL INFORMATION

USNRC OPERATIONS CENTER

RADIOLOGICAL RELEASES CHECK OR FILL IN APPLICABLE ITEMS (specific details/explanations should be covered in event description)						
<input type="checkbox"/> LIQUID RELEASE	<input type="checkbox"/> GASEOUS RELEASE	<input type="checkbox"/> UNPLANNED RELEASE	<input type="checkbox"/> PLANNED RELEASE	<input type="checkbox"/> ONGOING	<input type="checkbox"/> TERMINATED	
<input type="checkbox"/> MONITORED	<input type="checkbox"/> UNMONITORED	<input type="checkbox"/> OFFSITE RELEASE	<input type="checkbox"/> T.S. EXCEEDED	<input type="checkbox"/> RM ALARMS	<input type="checkbox"/> AREAS EVACUATED	
<input type="checkbox"/> PERSONNEL EXPOSED OR CONTAMINATED		<input type="checkbox"/> OFFSITE PROTECTIVE ACTIONS RECOMMENDED		<input type="checkbox"/> *State release path in description		

	Release Rate (Ci/sec)	% T.S. LIMIT	HOO GUIDE	Total Activity (Ci)	% T.S. LIMIT	HOO GUIDE
Noble Gas			0.1 Ci/sec			1000 Ci
Iodine			10 µCi/sec			0.01 Ci
Particulate			1 µCi/sec			1 mCi
Liquid (excluding tritium & dissolved noble gases)			10 µCi/min			0.1 Ci
Liquid (tritium)			0.2 Ci/min			5 Ci
Total Activity						

	PLANT STACK	CONDENSER/AIR EJECTOR	MAIN STEAM LINE	SG BLOWDOWN	OTHER
RAD MONITOR READINGS:					
ALARM SETPOINTS:					
% T.S. LIMIT (if applicable)					

RCS OR SG TUBE LEAKS CHECK OR FILL IN APPLICABLE ITEMS: (specific details/explanations should be covered in event description)			
LOCATION OF THE LEAK (e.g., SG #, valve, pipe, etc):			
LEAK RATE:	UNITS: gpm/gpd	T.S. Limits:	SUDDEN OR LONG TERM DEVELOPMENT:
LEAK START DATE:	TIME:	COOLANT ACTIVITY & UNITS: PRIMARY -	SECONDARY -
LIST OF SAFETY RELATED EQUIPMENT NOT OPERATIONAL:			

EVENT DESCRIPTION (Continued from front)

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**EMERGENCY PLAN SECURITY CHECKLIST**

ITEM	EVENT/ACTION	START TIME	FINISH TIME
1	TYPE OF EVENT	N/A	N/A
A	LOCAL AREA EVACUATION		
B	CONTROL ROOM EVAUATION		
	S/O POSTED AT D840	N/A	
C	UNUSUAL EVENT		N/A
D	ALERT – PATROL DISPATCHED FOR OCA NOTIFICAITON		N/A
	SCHOOL/TRAINING/WELLNESS COMPLEX NOTIFIED	N/A	
	BOAT RAMP SIGNS POSTED/PERSONNEL NOTIFIED	N/A	
	RED BARN/SCOUT CAMP NOTFIED	N/A	
	SWITCHYARD PERSONNEL NOTIFIED	N/A	
	PERSONNEL IN TRAILERS SOUTH OF CRF NOTIFIED	N/A	
	PERSONNEL IN LAYDOWN AREA NORTH OF CRF NOTIFIED	N/A	
	FOSSIL CONTROL ROOM NOTIFIED	N/A	
	OCA NOTIFICAITONS COMPLETE	N/A	
E	SITE AREA MERGENCY		N/A
F	GENERAL EMERGENCY		N/A
2	DISPATCH SUPERVISOR AND S/O TO OPEN TSC		N/A
A	TSC POSTED	N/A	
3	DISPATCH 2 S/Os TO OPEN OSC		N/A
A	OSC POSTED	N/A	
4	TSC SECURITY SUPERVISOR POSTED IN TSC	N/A	

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**ATTACHMENT 3**

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**EMERGENCY PLAN SECURITY CHECKLIST**

ITEM	EVENT/ACTION	START TIME	FINISH TIME
5	EVACUATION ROUTE____PRIMARY____ALTERNATE	N/A	N/A
A	PRIMARY EVACUATION ROUTE	N/A	N/A
	DISPATCH S/O TO PRIMARY OSAA		N/A
	DISPATCH S/O TO FPL PROPERTY LINE		N/A
	S/O POSTED AT PRIMARY OSAA	N/A	
	S/O POSTED AT FPL PROPERTY LINE	N/A	
	S/O AT PROPERTY LINE RELOCATED TO LLEA CONTROL POINT	N/A	
B	ALTERNATE EVACUATION ROUTE	N/A	N/A
	DISPATCH S/Os TO TOWER GATE AND ALTERNATE OSAA		N/A
	S/O POSTED AT TOWER GATE	N/A	
	S/O POSTED AT ALTERNATE OSAA	N/A	
	S/O POSTED AT CARD SOUND ROAD	N/A	
6	PA ACCESS RESTRICTED TO ERD PERSONNEL		N/A
7	VISITORS DIRECTED TO LEAVE PA		N/A
A	VISITORS ACCOUNTED FOR	N/A	
8	CONTRACTOR PERSONNEL DIRECTED TO LEAVE PA		N/A
A	CONTRACTOR PERSONNEL ACCOUNTED FOR	N/A	
9	PA EVACUATION DIRECTED		N/A
A	ACCOUNTABILITY STARTED		N/A
B	INITIAL ACCOUNTABILITY COMPLETED	N/A	
C	ALL PERSONNEL ACCOUNTED FOR	N/A	
D	RCA SWEEPS STARTED		N/A
E	RCA SWEEPS COMPLETED	N/A	
F	PA SWEEPS STARTED		N/A
G	PA SWEEPS COMPLETED	N/A	

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**EMERGENCY PLAN SECURITY CHECKLIST**

ITEM	EVENT/ACTION	START TIME	FINISH TIME
10	SAFEGUARDS	N/A	N/A
A	MODIFIED		N/A
B	SUSPENDED		N/A
C	SAS CLOSED	N/A	
D	CAS CLOSED	N/A	
E	N.E.B CLOSED	N/A	
11	EVACUATION OF SECURITY PERSONNEL	N/A	N/A
A	NON-ESSENTIAL SECURITY EVACUATION STARTED		N/A
B	NON-ESSENTIAL SECURITY EVACUATION COMPLETED	N/A	
12	SECURITY ACCESS BUILDINGS	N/A	N/A
A	MTG CLOSED	N/A	
B	WTG CLOSED	N/A	
13	SECURITY EQUIPMENT	N/A	N/A
A	WEAPONS SECURED	N/A	
B	KEYS SECURED	N/A	
14	RESTORATION OF SAFEGUARDS BEGUN		N/A
15	RESTORATION OF SAFEGUARDS COMPLETE	N/A	

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**TSC STAFF ACCOUNTABILITY LOG**

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

POSITION	NAME	BADGE NO.
Emergency Coordinator	_____	_____
TSC Chemistry Supervisor	_____	_____
TSC Document Control Personnel	_____	_____
TSC Document Control Personnel	_____	_____
TSC Dose Assessment Recorder	_____	_____
TSC Dose Assessment Technician	_____	_____
TSC Electrical/I&C Engineer	_____	_____
TSC ENS Communicator	_____	_____
TSC EOF Communicator	_____	_____
TSC ERDADS Operator	_____	_____
TSC Fire Protection Supervisor	_____	_____
TSC Health Physics Supervisor	_____	_____
TSC HPN Communicator	_____	_____
TSC HP/OSC Communicator	_____	_____
TSC Licensed Operator Support	_____	_____
TSC Mechanical Engineer	_____	_____
TSC Maintenance/Eng Liaison	_____	_____
TSC Maintenance Manager	_____	_____
TSC Off-site Team Leader	_____	_____
TSC Operations Manager	_____	_____

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## ATTACHMENT 6

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### TSC STAFF ACCOUNTABILITY LOG

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

POSITION _____	NAME _____	BADGE NO. _____
TSC Plant Data Communicator	_____	_____
TSC Plt Data Status Brd Keeper	_____	_____
TSC Reactor Engineer	_____	_____
TSC Security Supervisor	_____	_____
TSC Security Officer	_____	_____
TSC Security Officer	_____	_____
TSC Site Corporate Communicator	_____	_____
TSC Station Area Operations Supervisor	_____	_____
TSC State/County Communicator	_____	_____
TSC Supervisor	_____	_____
TSC Tech Assist to Emerg Coord	_____	_____
Miscellaneous Positions/Additions	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____



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**ATTACHMENT 7**

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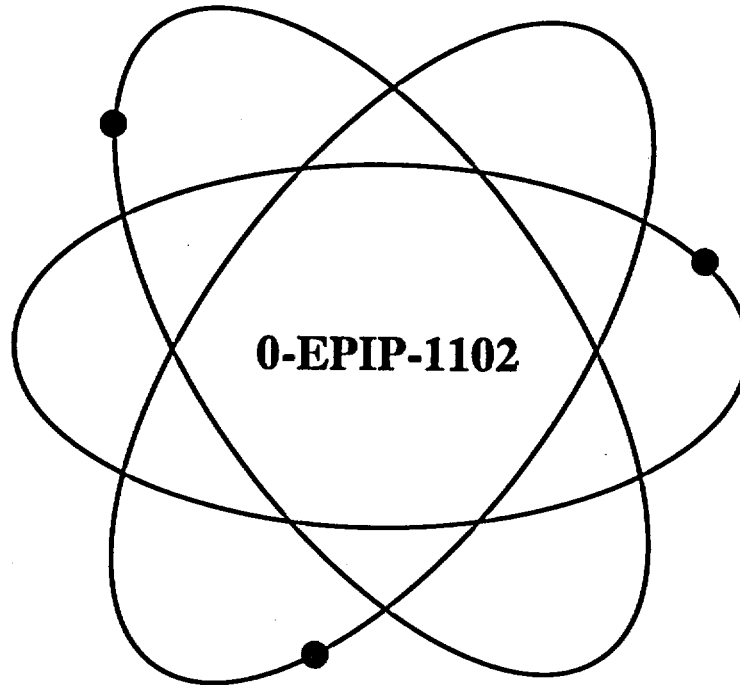
**SECURITY ACCOUNTABILITY SHEET**

Badge #'s 1-500	Badge #'s 501-1000	Badge #'s 1001-1500	Badge #'s 1501-2000	Badge #'s 2001-2500	Badge #'s 2501-3000
Badge #'s 3001-3500	Badge #'s 3501-4000	Badge #'s 4001-4500	Badge #'s 4501-5000	Badge #'s 5001-5500	Badge #'s 5501-5599

**FINAL PAGE**

# Florida Power & Light Company

## Turkey Point Nuclear Plant



Title:

### Duties of the Recovery Manager

#### Safety Related Procedure

<i>Responsible Department:</i>	Emergency Preparedness
<i>Revision Approval Date:</i>	5/31/00
<i>Periodic Review Due:</i>	9/20/04
<i>Implementation Date:</i>	6/1/00

RTSs 96-0772P, 98-0671, 00-0248P

**LIST OF EFFECTIVE PAGES**

<u>Page</u>	<u>Revision Date</u>
1	05/31/00
2	05/31/00
3	05/31/00
4	05/31/00
5	05/31/00
6	05/31/00
7	05/31/00
8	05/31/00
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10	05/31/00
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19	05/31/00
20	05/31/00
21	05/31/00
22	05/31/00

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**1.0 PURPOSE**

- 1.1** This procedure identifies the actions of the Recovery Manager (RM) when the Turkey Point Radiological Emergency Plan is implemented.
- 1.2** Individuals designated to function as the RM are identified in the Emergency Response Directory (ERD).

**2.0 REFERENCES/RECORDS REQUIRED/COMMITMENT DOCUMENTS**

**2.1 References**

**2.1.1 Plant Procedures**

- 1. 0-EPIP-1212, Emergency Operations Facility (EOF) Activation and Operation
- 2. 0-EPIP-20101, Duties of Emergency Coordinator

**2.1.2 Miscellaneous Documents (PC/Ms, Correspondence, Etc.)**

- 1. Turkey Point Radiological Emergency Plan
- 2. Turkey Point Emergency Response Directory
- 3. Turkey Point Nuclear Plant Recovery Plan

**2.2 Records Required**

**2.2.1** The following information and documentation shall be collected and forwarded to the Emergency Preparedness Coordinator upon termination of an actual emergency for review and archival:

- 1. Completed EPIPs and Attachments
- 2. Logs of Emergency Events
- 3. Florida Nuclear Plant Emergency Notification Forms
- 4. Other Notes and Data Sheets

**2.3 Commitment Documents**

**2.3.1** None

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### 3.0 RESPONSIBILITIES

#### 3.1 The Recovery Manager (RM) shall be responsible for:

- 3.1.1 Ordering activation of the EOF (normally at the Alert).
- 3.1.2 Assuming the responsibilities from the Emergency Coordinator (EC) for notifications to off-site agencies and issuance of Protective Action Recommendations to off-site authorities (state and local) when the EOF is declared operational.
- 3.1.3 Managing all activities in the EOF.
- 3.1.4 Periodically updating the EC of EOF activities.
- 3.1.5 Maintaining continuity of technical and administrative support and material resources for the EC.
- 3.1.6 Addressing requests for additional support as necessary.
- 3.1.7 Assist in managing logistics support for emergency personnel (e.g., transportation, communications, temporary quarters, food and water, sanitary facilities in the field, and special equipment and supplies procurement.)
- 3.1.8 Periodically updating the ECO of plant status.
- 3.1.9 De-escalating the emergency as required.

### 4.0 DEFINITIONS

- 4.1 None

**5.0 PROCEDURE**

**5.1** Upon arrival at the EOF, determine if adequate personnel are in place to determine PARs AND manage off-site communications.

**5.1.1** The following is a recommended list of the minimum personnel needed for EOF operation (Reference Enclosure 1 for alternates):

1. Recovery Manager
2. RM Operations Advisor
3. Hot Ring Down Communicator
4. ERDADS Operator OR TSC Communicator
5. Two Dose Assessment Coordinators

**5.1.2** Individuals assigned for each position are listed in the Emergency Response Directory (ERD).

**CAUTION**

*The primary function of the EOF staffing is to assume responsibility for making notifications and PARs from the plant. Assume this responsibility as soon as practicable, but not before you are fully prepared to do so.*

**5.2** Contact the EC to coordinate the appropriate time for the EOF to assume responsibilities for state and local notification and protective action recommendations from the EC in the TSC.

**5.2.1** Ensure communicators have received a turnover including the time and information of the last update.

**5.2.2** Ensure that Dose Assessment Coordinators are ready to assume their duties and responsibilities.

**5.2.3** Establish communications with the EC and prepare for turnover of the following responsibilities:

1. Notification to state and local authorities.
2. Issuance of Protective Action Recommendations (PARs) to off-site agencies.

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## Duties of the Recovery Manager

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5.2.3 (Cont'd)**NOTE**

*The NRCOC may request that a continuous open line of communications be maintained. The TSC will maintain that open line until the EOF is adequately staffed, then both the TSC and EOF should stay on the line.*

## 3. Notifications to the NRC.

- a. Initiation of the EOF portion of ENS communications shall be coordinated with the TSC.
- b. Ensure the HPN bridge has been established, if appropriate.

5.3 Continue to staff EOF positions as necessary.**NOTE**

*Concurrence by the EC is recommended prior to declaring the EOF operational and assuming responsibilities, but is not mandatory.*

## 5.4 The RM may declare the EOF operational when there are adequate staffing resources in place and an understanding of the events in progress has been achieved.

## 5.4.1 Log the time the EOF is declared operational. \_\_\_\_\_

**NOTE**

*Prior to the arrival of state and county representative in the EOF, notifications will be made to the State and Counties via the HRD System. After their arrival, notifications will be made via direct communications with the representatives.*

## 5.4.2 The RM should announce that he has assumed the responsibility for notification to state and local authorities, and for issuance of PARs, to the following: (Check when contacted)

1. ☐ EC
2. ☐ EOF Staff (via announcement in EOF)
3. ☐ ECO (via announcement or telephone communication)
4. ☐ State and local government EOCs and DOH-BC
5. ☐ NRCOC (via ENS or alternate) if a constant line of communication has been established with the NRCOC.



**CAUTION**

*Close coordination shall be maintained with EC on the potential for changes in emergency classification levels.*

- 5.5 Within 15 minutes of classification of an emergency or changes in PARs, update Attachment 1 and make the appropriate notifications as follows:

**CAUTION**

*RM must be aware of all information included on Attachment 1. Awareness should be indicated by his initials on Attachment 1.*

- 5.5.1 Ensure prompt completion of Attachment 1.

**NOTE**

*If a threshold is anticipated to exceed a PAR, it is not necessary or desired to wait until that threshold is exceeded to make that PAR.*

- 5.5.2 Using Attachment 2, review necessity for PARs or changes in PARs and record information on Attachment 3.
- 5.5.3 Record the PARs from Attachment 3 on Attachment 1.
1. Obtain RM Operations Advisor and HP Manager assistance as necessary.
- 5.5.4 Upon completing Attachment 1, indicate approval by initialing the form.
- 5.5.5 If personnel from the state and county agencies are present in the EOF, the RM may use Attachment 3 to conduct the briefing on PARs given by the utility, and Attachment 4 for status of the units.
- 5.5.6 If personnel from the state and counties are not present in the EOF, notification of the new information should be completed via the Hot Ring Down system using Attachment 1.
- 5.5.7 Following the notification of the state and counties, but no later than 1 hour, notify the NRCOC.
- 5.5.8 Update the TSC and EOF staffs of the changes.

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- 5.5.9 Within approximately 15 minutes or as soon as practical after notification of any PARs to State and Counties, consult with DEM for Protective Actions implemented by Counties.
1. Announce Protective Actions implemented to EOF staff, or if Governor's Authorized Representative (GAR) is in EOF, request the GAR to announce Protective Actions implemented.
  2. Notify EC of Protective Actions implemented.
- 5.6 Provide support to EC as necessary.
- 5.6.1 Assure continuity of technical and administrative support and material resources.
  - 5.6.2 Request additional support as necessary.
  - 5.6.3 Provide for logistics support for emergency personnel, e.g., transportation, communications, temporary quarters, food and water, sanitary facilities in the field, and special equipment and supplies procurement.
  - 5.6.4 Discuss long term recovery plans, as necessary, in accordance with the Recovery Plan.
- 5.7 Provide verbal updates to EOF staff periodically.
- 5.7.1 RM may use Attachment 4 to perform these routine updates (approximately every 30 minutes, or as conditions change) and should update the staff promptly of any significant changes in events including:
    1. Classification changes.
    2. Radiological release occurrence or termination (this includes significant changes in source term or meteorological data).
    3. Loss or restoration of significant equipment and/or systems (containment failure, loss of make-up capability, etc.)
    4. Protective Action Recommendations and/or Protective Actions implemented.
  - 5.7.2 The RM should encourage other Managers, and State and County Representatives to provide additional update information.
  - 5.7.3 Document significant activities in the RM logbook.

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- 5.8 Obtain periodic updates of plant conditions, including the unaffected unit.
  - 5.8.1 Ensure that contact with EC is as frequent as necessary to maintain awareness of plant conditions and actions.
  - 5.8.2 Update the State/Counties and NRC approximately every hour or as agreed to by the State/Counties and NRC.
- 5.9 Provide support/resources to EC from vendors, unaffected nuclear plant, or other FPL resources outside the Nuclear Division.
  - 5.9.1 Notify the President - Nuclear Division to get authorization to expend funds as necessary above existing purchase orders.
  - 5.9.2 If a situation arises where no company policy is in place to support the actions that will aid in the mitigation of the emergency, establish the necessary policy.
- 5.10 Provide concurrence to the EC for exceeding 10 CFR 20 exposure limits for emergency personnel, if requested from the EC.
  - 5.10.1 Consult Enclosure 2 for information on personnel exposure limits.
- 5.11 Determine the status of the emergency for possible de-escalation.
  - 5.11.1 Use 0-EPIP-20101, DUTIES OF EMERGENCY COORDINATOR, Enclosure 1, Emergency Classification Table, and Enclosure 3, De-escalation Guidelines.
  - 5.11.2 Confer with the RM Operations Advisor to ensure that de-escalation of the emergency classification is appropriate.
  - 5.11.3 Notify the EC when plant conditions support possible de-escalation of the emergency classification.
  - 5.11.4 Order de-escalation to appropriate level after conferring with the State, Counties, NRC and EC.
- 5.12 Go to the Recovery Plan for further guidance and instructions on Post Emergency Reports.
  - 5.12.1 Within 24 hours after termination of an Alert or higher emergency event, prepare an incident report for submittal to DEM and NRC in accordance with the Recovery Plan.

**END OF TEXT**

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**ENCLOSURE 1**  
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**EOF MINIMUM STAFFING GUIDANCE**

**EOF Position**

**Acceptable Alternate**

Recovery Manager

Designated alternates listed in ERD.

RM Operations Advisor

Any Responder with an active or past operating license, or equivalent (RO, SRO, SRO Certification) at either FPL Nuclear Plant.

Hot Ring Down Communicator

Any Responder

ERDADS Operator  
computer.

Any Responder with working knowledge in ERDADS

TSC Communicator

Any Responder with Plant technical background.

Dose Assessment Coordinator

Any Responder trained in radiological assessment (including the operation of the Dose Assessment Computer, field team monitoring assessment, etc.) One individual should obtain radiological information from the best source (TSC or EOF as capable) while the other individual interfaces with the RM on the State Notification Form (release rates, dose projections and protective action recommendations, as appropriate).

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**ENCLOSURE 2**  
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**BASIS FOR EXPOSURE LIMITS FOR EMERGENCY  
RESPONSE PERSONNEL**

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

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

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

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

Declared pregnant persons should not be used as on-site emergency workers.

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

Doses above regulatory limits will require reporting pursuant to 10 CFR 20.2202 and 20.2203. Any dose in excess of the annual limits specified in Section 20.1201(a) will be accounted for in accordance with 10 CFR 20.1206(e). If an individual exceeds any of these limits, then that individual will not be available for additional dose under 20.1201(a).

## ENCLOSURE 2

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BASIS FOR EXPOSURE LIMITS FOR EMERGENCY  
RESPONSE PERSONNEL

For the following missions, the exposure limit is(1).

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

NOTES

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

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

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ATTACHMENT 1  
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## FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM

1. A. ☐ THIS IS A DRILL B. ☐ THIS IS AN ACTUAL EVENT
2. A. Time/Date contact made \_\_\_\_\_ B. Reported by: (Name/Title) \_\_\_\_\_
- C. Message Number \_\_\_\_\_ D. Reported from: ☐ Control Room ☐ TSC ☐ EOF
3. SITE A. ☐ CRISTAL RIVER UNIT 3 B. ☐ ST LUCIE UNIT 1 D. ☐ TURKEY POINT UNIT 3
- C. ☐ ST LUCIE UNIT 2 E. ☐ TURKEY POINT UNIT 4

4. ACCIDENT CLASSIFICATION A. ☐ NOTIFICATION OF UNUSUAL EVENT C. ☐ SITE AREA EMERGENCY
- B. ☐ ALERT D. ☐ GENERAL EMERGENCY

5. CURRENT EMERGENCY DECLARATION: TIME: \_\_\_\_\_ DATE \_\_\_\_\_
6. REASON FOR EMERGENCY DECLARATION

7. ADDITIONAL INFORMATION OR UPDATE:

8. INJURIES REQUIRING OFFSITE SUPPORT: A. ☐ No ☐ Yes ☐ Unknown B. Contaminated: ☐ No ☐ Yes ☐ Unknown

9. WEATHER DATA: A. Wind direction from \_\_\_\_\_ degrees.
- B. Downwind Sectors Affected (minimum of 3): \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

10. RELEASE STATUS: A. ☐ No Release (Go to Item 12) C. ☐ A Release occurred, but stopped
- B. ☐ A Release is occurring

11. OFFSITE RELEASE SIGNIFICANCE CATEGORY (at the Site Boundary)
- A. ☐ Information not available at this time
- B. ☐ Release within normal operating limits ( $\leq 2.8$  ci/sec noble gas,  $\leq 3.7$  E-4 ci/sec iodine)
- C. ☐ Non-Significant Fraction of PAG Range (release is  $>$  normal limits and  $< 500$  mR TEDE and 1000 mR CDE)
- D. ☐ PAG Range ( $\geq 500$  mR TEDE or  $\geq 1000$  mR CDE)

12. UTILITY RECOMMENDED PROTECTIVE ACTIONS

- A. ☐ NONE B. ☐ SHELTER ZONES/AREAS: \_\_\_\_\_ (Not for FPL Use)
- EVACUATE ZONES/AREA: \_\_\_\_\_ (Not for FPL Use)
- OR C. ☐

MILES	NO ACTION	EVACUATE SECTORS	SHELTER SECTORS
0 - 2	_____	_____	_____
2 - 5	_____	_____	_____
5 - 10	_____	_____	_____

13. HAS EVENT BEEN TERMINATED?: A. ☐ NO B. ☐ YES Time \_\_\_\_\_ Date \_\_\_\_\_

14. SUPPLEMENTAL FORM IS ATTACHED?: A. ☐ NO B. ☐ YES
- EC or RM Approval Signature \_\_\_\_\_ Time \_\_\_\_\_ Date \_\_\_\_\_
15. MESSAGE RECEIVED BY: Name \_\_\_\_\_ Time \_\_\_\_\_ Date \_\_\_\_\_

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**ATTACHMENT 1**  
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**FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM**  
**SUPPLEMENTAL DATA SHEET**

The following supplemental data is to be completed after the TSC or EOF is declared operational at Alert of higher Supplement to Message Number \_\_\_\_\_

**PLANT CONDITIONS INFORMATION**

**CRITICAL SAFETY FUNCTIONS**

- A. REACTOR SHUTDOWN? ☐ YES ☐ NO  
 B. CORE ADEQUATELY COOLED? ☐ YES ☐ NO  
 C. ADEQUATE EMERGENCY POWER AVAILABLE (DIESELS) ☐ YES ☐ NO

**FISSION PRODUCT BARRIER STATUS:** (Check one condition for each barrier)

BARRIER	✓	INTACT	✓	CHALLENGED	✓	LOST	✓	REGAINED
FUEL CLADDING		No indication of clad damage		Clad is intact but losing subcooling, water level, etc.		Clad has failed, indicated by high temps., high containment rad, etc		Cooling restored, no further degradation expected
PRI. REACTOR COOLANT SYSTEM		Leakage is within normal charging or makeup pump capacity		Leakage is within safety injection capacity		Leakage exceeds safety injection capacity		Leakage reduced to within injection capacity (system repaired)
CONTAINMENT		No evidence of containment leakage or tube rupture release is only through condenser		No leakage but containment pressure is at or above safety system actuation points		Evidence of containment leakage (known release path or rad surveys)		Repair Efforts have isolated leak or containment pressure has reduced to stop leakage

COMPLETED BY: \_\_\_\_\_ TIME: \_\_\_\_\_ DATE: \_\_\_\_\_

**RADIOLOGICAL DOSE ASSESSMENT DATA**

1. **RELEASE STATUS:** A. ☐ No Release (no further data required) C. ☐ A Release occurred, but stopped  
B. ☐ A Release is occurring

2. **RELEASE RATE:**

- A. ☐ NOBLE GASES: \_\_\_\_\_ Curies per second ☐ Measured ☐ Default  
 B. ☐ IODINES: \_\_\_\_\_ Curies per second ☐ Measured ☐ Default

3. **TYPE OF RELEASE:**

- A. ☐ AIRBORNE: Time/Date started: \_\_\_\_\_ Time/Date stopped: \_\_\_\_\_  
 B. ☐ LIQUID Time/Date started: \_\_\_\_\_ Time/Date stopped: \_\_\_\_\_

4. **PROJECTED OFFSITE DOSE RATE:**

DISTANCE	THYROID DOSE RATE (CDE)	TOTAL DOSE RATE (TEDE)
1 Mile (Site Boundary)	A. _____ mrem/hr	B. _____ mrem/hr
2 Miles	C. _____ mrem/hr	D. _____ mrem/hr
5 Miles	E. _____ mrem/hr	F. _____ mrem/hr
10 Miles	G. _____ mrem/hr	H. _____ mrem/hr

5. **WEATHER DATA (used for the above data):**

- A. Wind Direction from \_\_\_\_\_ degrees.  
 B. Wind Speed \_\_\_\_\_ MPH  
 C. Stability Class \_\_\_\_\_

COMPLETED BY: \_\_\_\_\_ TIME: \_\_\_\_\_ DATE: \_\_\_\_\_

Emergency Coordinator or Recovery Manager Approval \_\_\_\_\_



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**FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM**  
**METEOROLOGICAL WORKSHEET**

**SECTOR REFERENCE:**

The chart below can be used to determine sectors affected by a radiological release, through comparison with wind direction from the meteorological recorders in the Control Room.

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

**SECTOR INFORMATION:**

<u>WIND SECTOR</u>	<u>WIND FROM</u>	<u>DEGREES</u>	<u>WIND TOWARD</u>	<u>SECTORS AFFECTED</u>
[A]	N	348-11	S	HJK
[B]	NNE	11-33	SSW	JKL
[C]	NE	33-56	SW	KLM
[D]	ENE	56-78	WSW	LMN
[E]	E	78-101	W	MNP
[F]	ESE	101-123	WNW	NPQ
[G]	SE	123-146	NW	PQR
[H]	SSE	146-168	NNW	QRA
[J]	S	168-191	N	RAB
[K]	SSW	191-213	NNE	ABC
[L]	SW	213-236	NE	BCD
[M]	WSW	236-258	ENE	CDE
[N]	W	258-281	E	DEF
[P]	WNW	281-303	ESE	EFG
[Q]	NW	303-326	SE	FGH
[R]	NNW	326-348	SSE	GHJ

**STABILITY CLASSIFICATION REFERENCE:**

The below chart can be used to determine atmospheric stability classification for notification to the State of Florida. Primary method is from  $\Delta T$  via the South Dade (60 meter) tower. Backup method is from Sigma Theta via the Ten Meter Tower. If neither meteorological tower is available, Stability Classification shall be determined using data from National Weather Service (See 0-EPIP-20126, Off-site Dose Calculations).

**CLASSIFICATION OF ATMOSPHERIC STABILITY:**

<u>Stability Classification</u>	<u>Pasquill Categories</u>	<u>Primary Delta T (°F)</u>	<u>Backup Sigma Theta Range (Degrees)</u>
Extremely unstable	A	$\Delta T \leq -1.7$	$ST \geq 22.5$
Moderately unstable	B	$-1.7 < \Delta T \leq -1.5$	$22.5 > ST \geq 17.5$
Slightly unstable	C	$-1.5 < \Delta T \leq -1.4$	$17.5 > ST \geq 12.5$
Neutral	D	$-1.4 < \Delta T \leq -0.5$	$12.5 > ST \geq 7.5$
Slightly stable	E	$-0.5 < \Delta T \leq +1.4$	$7.5 > ST \geq 3.8$
Moderately stable	F	$+1.4 < \Delta T \leq +3.6$	$3.8 > ST \geq 2.1$
Extremely stable	G	$+3.6 < \Delta T$	$2.1 > ST$

Meteorological information needed to fill out the Florida Nuclear Plant Emergency Notification Form is available from the Dose Calculation Worksheet (0-EPIP-20126). The Worksheet shall be filled out by Chemistry and given to the Emergency Coordinator.

**ATTACHMENT 2**  
(Page 1 of 4)  
**GUIDANCE FOR DETERMINING  
PROTECTIVE ACTION RECOMMENDATIONS (PARS)**

**WORKSHEET**

<b>PLANT CONDITIONS</b>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">General Emergency?</div>			NO																						
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">YES</div>																									
<b>OFF SITE DOSE PROJECTIONS</b>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Actual or Projected Severe Core Damage Note (1)</div>			NO																						
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">YES</div>			<div style="border: 1px solid black; padding: 5px; display: inline-block;">Loss of Physical Control of Plant? Note (2)</div>																						
				NO																						
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">0 - 2 miles: E (CR) 2 - 5 miles: E (DW) + S (RS) 5 - 10 miles: S (CR)</div>			<div style="border: 1px solid black; padding: 5px; display: inline-block;">0 - 2 miles: S (CR) 2 - 5 miles: S (DW) 5 - 10 miles: None</div>																						
				<div style="border: 1px solid black; padding: 5px; display: inline-block;">0 - 2 miles: None 2 - 5 miles: None 5 - 10 miles: None</div>																						
				<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; text-align: center; line-height: 30px; margin: 0 auto;">A</div>																						
	<div style="border: 1px solid black; padding: 5px; text-align: center;">Evaluate Further Protective Action Recommendations Based on Off-site Dose Projections</div>																									
	<div style="border: 1px solid black; padding: 5px;"> <p><b>Determine PAR for each mile value using most conservative dose at that mile value. Note (3)</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Total Dose (TEDE) in mrem</th> <th style="width: 50%;">Thyroid Dose (CDE) in mrem</th> </tr> <tr> <td>&lt;500 mrem</td> <td>&lt;1000 mrem</td> </tr> <tr> <td>≥500 mrem BUT &lt;1000 mrem</td> <td>≥1000 mrem BUT &lt;5000 mrem</td> </tr> <tr> <td>≥1000 mrem BUT &lt;5000 mrem</td> <td>≥5000 mrem BUT &lt;25000 mrem</td> </tr> <tr> <td>≥5000 mrem</td> <td>≥25000 mrem</td> </tr> </table> </div>						Total Dose (TEDE) in mrem	Thyroid Dose (CDE) in mrem	<500 mrem	<1000 mrem	≥500 mrem BUT <1000 mrem	≥1000 mrem BUT <5000 mrem	≥1000 mrem BUT <5000 mrem	≥5000 mrem BUT <25000 mrem	≥5000 mrem	≥25000 mrem										
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≥1000 mrem BUT <5000 mrem	≥5000 mrem BUT <25000 mrem																									
≥5000 mrem	≥25000 mrem																									
<p><b>NOTES:</b></p> <p>(1) Severe core damage is indicated by either:</p> <ul style="list-style-type: none"> <li>• Loss of critical functions required for core protection (loss of injection with LOCA)</li> <li>• High core temperatures (Valid CET &gt;700°F)</li> <li>• CHRRM reading of ≥ 1.3 E' R/Hr.</li> </ul> <p>(2) Loss of physical control of Control Room or reactor operating areas required for continued safe plant operation to intruders.</p> <p>(3) See Guidance for Determining PARs on next page for additional information.</p>																										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 33%;">0 - 2 miles Use 1 mile value</th> <th style="width: 33%;">0 - 5 miles Use 2 mile value</th> <th style="width: 33%;">5 - 10 miles Use 5 mile value</th> </tr> <tr> <td align="center">NONE</td> <td align="center">NONE</td> <td align="center">NONE</td> </tr> <tr> <td align="center">S (CR)</td> <td align="center">S (DW)</td> <td align="center">S (DW)</td> </tr> <tr> <td align="center">E (CR)</td> <td align="center">E (DW) + S (RS)</td> <td align="center">E (DW) + S (RS)</td> </tr> <tr> <td align="center">E (CR)</td> <td align="center">E (CR)</td> <td align="center">E (DW) + S (RS)</td> </tr> </table>						0 - 2 miles Use 1 mile value	0 - 5 miles Use 2 mile value	5 - 10 miles Use 5 mile value	NONE	NONE	NONE	S (CR)	S (DW)	S (DW)	E (CR)	E (DW) + S (RS)	E (DW) + S (RS)	E (CR)	E (CR)	E (DW) + S (RS)						
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E (CR)	E (CR)	E (DW) + S (RS)																								
<div style="border: 1px solid black; padding: 5px;"> <p><b>LEGEND OF ABBREVIATIONS</b></p> <p>N- No protective action recommended</p> <p>S- Sheltering recommended</p> <p>E- Evacuation recommended</p> <p>DW- Downwind + 2 adjoining sectors</p> <p>RS- Remaining sectors</p> <p>CR- Complete radius around plant at specified distance</p> </div>																										
<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; text-align: center; line-height: 30px; margin: 0 auto;">B</div>																										
<p><b>SUMMARY</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 40%;"></th> <th style="width: 15%;">0 - 2 MI.</th> <th style="width: 15%;">2 - 5 MI.</th> <th style="width: 15%;">5 - 10 MI.</th> </tr> <tr> <td>(A) PARs based on - Plant Conditions</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(B) PARs based on - Total Dose (TEDE)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PARs based on - Thyroid Dose (CDE)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>F-444 Most Conservative PARs of (A) &amp; (B)</td> <td></td> <td></td> <td></td> </tr> </table>								0 - 2 MI.	2 - 5 MI.	5 - 10 MI.	(A) PARs based on - Plant Conditions				(B) PARs based on - Total Dose (TEDE)				PARs based on - Thyroid Dose (CDE)				F-444 Most Conservative PARs of (A) & (B)			
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## ATTACHMENT 2

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### GUIDANCE FOR DETERMINING PROTECTIVE ACTION RECOMMENDATIONS (PARS)

FPL is required to provide county and state governmental authorities with recommendations for protective action to be taken by the public during radiological emergencies at the Turkey Point Nuclear Plant. The responsible authorities are the State Division of Emergency Management (DEM), Miami-Dade County Office of Emergency Management and Monroe County Office of Emergency Management.

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

Beginning at the top left side, answer the General Emergency question. If yes, continue on, following the arrows, and answering the other question blocks. Record the PARs based on Plant Condition (A) in the Summary Block at the bottom of the page. From the PAR based on Plant Condition's block continue following arrow to next box, and determine PARs based on Off-site Dose Projections (B) Total Dose (TEDE) and Thyroid Dose (CDE). In determining PARs, both plant conditions AND off-site doses must be considered for all PARs. If a release has not occurred, then proceed with issuance of PARs from the plant condition determination.

To determine PARS from off-site doses, find the blocks that correspond with the Total Dose (TEDE) and Thyroid Dose (CDE) at 1, 2 and 5 miles from the Dose Calculation Worksheet (0-EPIP-20126). Follow across to the column that indicates the distance where that dose was found i.e., first block for 1 mile, second block for 2 miles, or third block for 5 miles. (B) Record the PARs based on Off-site Doses in the Summary Block. Once PARs are determined for all mile sectors for both Total Dose (TEDE) and Thyroid Dose (CDE) (B), then a comparison with the Plant Condition PARs (A) is performed, and the most conservative PARs for each mile sector is selected for issuance to off-site agencies.

The following example is provided:

#### EXAMPLE

*A release has occurred at the Turkey Point Plant. The wind direction is from the SSE and the projected off-site accumulated Thyroid Dose (CDE) is 5,000 mrem at 1 mile, 1,000 mrem at 2 miles, and less than 1,000 mrem at 5 miles. The plant is in a General Emergency with CHRRM at 100 R/hr, no core damage indicators, and no loss of physical control of the plant.*

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(Page 3 of 4)

**GUIDANCE FOR DETERMINING  
PROTECTIVE ACTION RECOMMENDATIONS (PARS)**

Using the PAR Worksheet, the following recommendations should be made:

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

- A. EVACUATE all people between 0 and 2 miles from the plant.**
- B. SHELTER all people between a 2 and 5 mile radius from the plant who are in Sectors Q, R and A (refer to Attachment 1).**
- C. No protective actions is recommended between a 5 and 10 mile radius from the plant.**

Due to the large political and legal ramifications of these recommendations and the potential impact on FPL, the following guidelines, format and content should be used.

- (1) If the emergency has not been classified as a GENERAL EMERGENCY and the off-site doses are LESS THAN 500 mrem Total Dose (TEDE) or < 1,000 mrem Thyroid Dose (CDE) at 1 mile over the projected duration of the release, no protective action is recommended. When reporting to DEM and other off-site agencies who inquire, this should be reported in a manner similar to the following:

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

- (2) When available, both plume calculation and off-site monitoring results should be evaluated when making protective action recommendations. If significant discrepancies exist between field monitoring results and plume dispersion calculations, then the discrepancy should be reviewed, and the appropriate value should be selected in the determination of protective action recommendations.

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**GUIDANCE FOR DETERMINING  
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- (3) Thyroid Dose (CDE) Limits for PARs are based on adult thyroid. These limits are consistent with EPA Guidelines based on the following criteria:
  - a. uncertainty and potential errors associated with age specific parameters, and
  - b. level of conservatism in the adult values.
- (4) Loss of physical control of the plant to intruders shall be determined by the Emergency Coordinator based on the current operating mode requirements of the unit/plant, and the availability of equipment required for continued safe operation.

## ATTACHMENT 3

(Page 1 of 1)

## PROTECTIVE ACTION RECOMMENDATIONS (PAR) WORKSHEET AND DISCUSSION ITEMS

1. Date/Time \_\_\_\_\_ / \_\_\_\_\_

2. **Emergency Classification: (circle)**      **NOUE**      **ALERT**      **SAE**      **GE**

### 3. PAR Formulation:

Distance	a. PAR based on PLANT CONDITIONS (Ops Advisor/Tech Assist)	b. PAR based on TOTAL DOSE (TEDE) (HP Mngr/Dose Coord)	c. PAR based on THYROID DOSE (CDE) (HP Mngr/Dose Coord)
0 - 2 Miles			
2 - 5 Miles			
5 - 10 Miles			

(PAR Notation: E = Evacuate, S = Shelter, N = None, CR = Complete Radius, DW = Down Wind, RS = Remaining Sectors)

**Signatures:**

**RM OPS Advisor/Tech Assistant****HP Manager/Dose Assessment Personnel**

4. Considerations: (check as applicable)	Yes	No
Is the proposed project consistent with the applicable zoning ordinance?		
Is the proposed project consistent with the applicable subdivision ordinance?		
Is the proposed project consistent with the applicable health, safety, and welfare ordinance?		
Is the proposed project consistent with the applicable environmental ordinance?		
Is the proposed project consistent with the applicable historic preservation ordinance?		
Is the proposed project consistent with the applicable floodplain ordinance?		
Is the proposed project consistent with the applicable wetlands ordinance?		
Is the proposed project consistent with the applicable other applicable ordinance?		

a. Were Field Monitoring results used for projections? \_\_\_\_\_

**b. Was there State and County coordination?** \_\_\_\_\_

**5. PARs to Issue (Recovery Manager):**

Distance	Most conservative PAR from Step 3, above	Selected PAR for Issue (IF different from MOST conservative THEN explain below)
0 - 2 Miles		
2 - 5 Miles		
5 - 10 Miles		

**6. Justification for deviation from Most conservative PAR:**

7. **Approved:**\_\_\_\_\_

## Recovery Manager

**8. Implemented State/County Protective Actions, (enter Sector/Zones)**

Evacuate Sector/zone

Shelter Sector/zone

None Sector/zone

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**ATTACHMENT 4**  
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**RECOVERY MANAGER UPDATE WORKSHEET**

Emergency Classification (circle one):

Date/Time: \_\_\_\_\_ / \_\_\_\_\_

Unusual Event

Alert

Site Area Emergency

General Emergency

Plant Status:

Unit 3

Unit 4

Current Efforts at the Site:

Release in Progress:

Injured Personnel:

Contaminated Personnel:

Other Information / Briefing to be provided by:

Health Physics Representative:

Engineering Representative:

Security Representative:

State Representative:

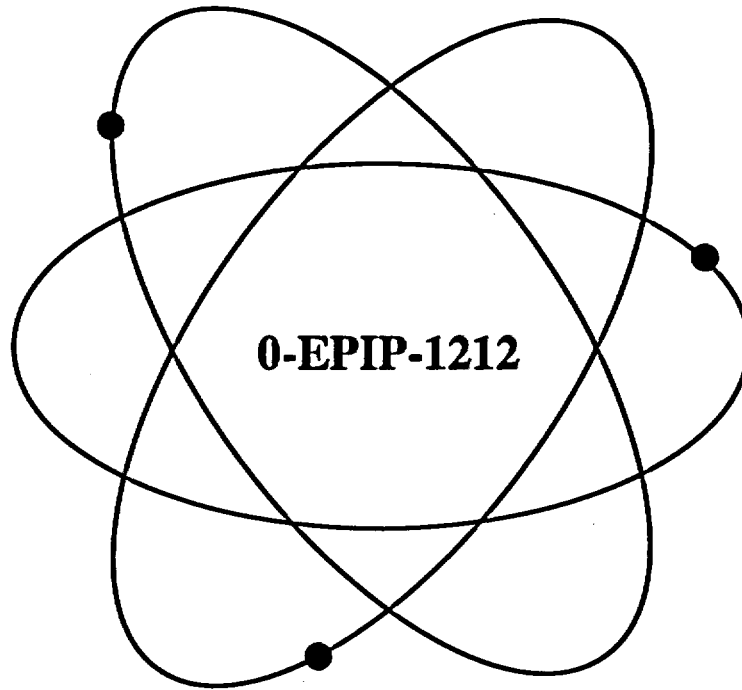
County Representative:

County Representative:

**FINAL PAGE**

# Florida Power & Light Company

## Turkey Point Nuclear Plant



### Title:

## Emergency Operations Facility (EOF) Activation and Operation

### Safety Related Procedure

<i>Responsible Department:</i>	Emergency Preparedness
<i>Revision Approval Date:</i>	5/31/00
<i>Periodic Review Due:</i>	9/20/04
<i>Implementation Date:</i>	6/1/00

RTSs 96-0772P, 96-1431, 98-0670, 00-0248P



**Emergency Operations Facility (EOF)  
Activation and Operation**

### LIST OF EFFECTIVE PAGES

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2	05/31/00	26	09/21/99	50	09/21/99
3	09/21/99	27	09/21/99	51	09/21/99
4	09/21/99	28	09/21/99	52	05/31/00
5	05/31/00	29	09/21/99	53	05/31/00
6	09/21/99	30	09/21/99	54	05/31/00
7	09/21/99	31	09/21/99	55	05/31/00
8	09/21/99	32	09/21/99	56	05/31/00
9	09/21/99	33	09/21/99	57	05/31/00
10	09/21/99	34	09/21/99	58	05/31/00
11	09/21/99	35	09/21/99	59	05/31/00
12	09/21/99	36	09/21/99	60	05/31/00
13	09/21/99	37	09/21/99	61	05/31/00
14	09/21/99	38	09/21/99	62	05/31/00
15	09/21/99	39	09/21/99	63	05/31/00
16	09/21/99	40	09/21/99	64	05/31/00
17	09/21/99	41	05/31/00	65	05/31/00
18	09/21/99	42	09/21/99	66	05/31/00
19	05/31/00	43	09/21/99		
20	09/21/99	44	09/21/99		
21	05/31/00	45	09/21/99		
22	09/21/99	46	09/21/99		
23	09/21/99	47	09/21/99		
24	09/21/99	48	09/21/99		

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Activation and Operation**

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**Emergency Operations Facility (EOF)  
Activation and Operation****1.0 PURPOSE**

- 1.1 This procedure identifies the steps involved for activation and operation of the Turkey Point Emergency Operations Facility (EOF).
- 1.2 Individuals specifically designated to perform assignments identified in this procedure are listed in the Turkey Point Emergency Response Directory (ERD).

**2.0 REFERENCES/RECORDS REQUIRED/COMMITMENT DOCUMENTS****2.1 References****2.1.1 Final Safety Analysis Report (FSAR)**

1. Section 12

**2.1.2 Plant Drawings**

1. Turkey Point Units 3 and 4 as-built drawings

**2.1.3 Procedures**

1. 0-EPIP-1102, Duties of the Recovery Manager
2. 0-EPIP-1211, Duties of the Corporate Communications Emergency Response Organization
3. 0-EPIP-1302, PTN Core Damage Assessment
4. 0-EPIP-20126, Off-Site Dose Calculations

**2.1.4 Regulatory Guidelines**

1. 10 CFR 26, Fitness for Duty

**2.1.5 Miscellaneous Documents**

1. Turkey Point Radiological Emergency Plan
2. Turkey Point Nuclear Plant Recovery Plan
3. Turkey Point Plant Physical Security Plan
4. Turkey Point Safeguards Contingency Plan
5. Nuclear Division Policy, NP-400
6. Turkey Point Emergency Response Directory (ERD)
7. Meteorology and Atomic Energy 1968

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## 2.2 Records Required

2.2.1 Collect the following material and forward to the Emergency Preparedness Coordinator for review and/or archival:

1. All attachments to this procedure or similar forms, worksheets, or reports.
2. Logs of emergency events and actions.

## 2.3 Commitment Documents

2.3.1 QAS-EMP 90-1, Finding 4, April 6, 1990

2.3.2 QAS-EMP 89-3, Finding 4, February 27, 1990

2.3.3 NRC IR 92-12; EW 92-12-02, May 6, 1992

### 3.0 RESPONSIBILITIES

#### 3.1 The Recovery Manager is responsible for:

- 3.1.1 Activating the EOF in accordance with 0-EPIP-1102, DUTIES OF THE RECOVERY MANAGER.
- 3.1.2 Declaring the EOF operational in accordance with 0-EPIP-1102, DUTIES OF THE RECOVERY MANAGER

#### 3.2 The Emergency Security Manager (ESM) is responsible for:

- 3.2.1 Access and security of the EOF and ENC.
- 3.2.2 Assuring all requirements of 10 CFR Part 26, Fitness for Duty rules, are met by persons reporting for duty in pre-assigned EOF positions.
- 3.2.3 Maintaining liaison with law enforcement agencies.
- 3.2.4 Coordinating with on-site security personnel to assist in security functions as required.
- 3.2.5 Assuring prompt access to the TSC/EOF is granted for NRC responders.
- 3.2.6 Tracking the status of injured site personnel transported to off-site medical facilities.
- 3.2.7 Providing advice to the Recovery Manager in relation to security matters during a plant emergency.

#### 3.3 The EOF Supervisor is responsible for:

- 3.3.1 Coordinating and verifying facility operational readiness.
- 3.3.2 Ensuring accountability within the EOF is maintained.
- 3.3.3 Ensuring adequate operational and technical support for the RM.
- 3.3.4 Overseeing communication to the State, counties and NRC to ensure notifications are performed in the required times.
- 3.3.5 Ensuring plant data is provided to the facility personnel via ERDADS, status boards, communicators or TV monitors.
- 3.3.6 Providing direction to the EOF Administrative Supervisor for support to the EOF staff.
- 3.3.7 Ensuring equipment is available and functional to support the event.

**Emergency Operations Facility (EOF)  
Activation and Operation****3.4 The RM Operations Advisor is responsible for:**

- 3.4.1 Supporting the RM in the development of Protective Action Recommendations.
- 3.4.2 Following plant status by means of EOF TSC Communicator, TV system, or other source.
- 3.4.3 Ensuring facility awareness of current EAL.
- 3.4.4 Routinely reviewing EOPs as necessary.
- 3.4.5 Assisting the RM with preparation and conduct of briefings.
- 3.4.6 Acting as a relief to the RM when the RM exits the area.
- 3.4.7 Maintaining the RM logbook.

**3.5 The Technical Assistant to the RM is responsible for:**

- 3.5.1 Determining present and potential Emergency Action Level Status.
- 3.5.2 Updating the 10-mile EPZ map with the Protective Actions issued.
- 3.5.3 Assisting the HRD Communicator with the completion of the state notification forms as necessary.
- 3.5.4 Assisting the RM with preparation and conduct of briefings.
- 3.5.5 Acting as a relief to the RM when the RM exits the area.
- 3.5.6 Maintaining a log of activities.

**3.6 The Administrative Supervisor is responsible for:**

- 3.6.1 Providing administrative support such as faxing, photocopying, distributions, etc.
- 3.6.2 Ensuring operability of EOF equipment.
- 3.6.3 Ensuring adequate measures are in place to meet personnel needs such as food, water, etc. both at the EOF and at the plant.
- 3.6.4 Arranging hotel reservations and car rentals for incoming personnel, as necessary.
- 3.6.5 Ensuring minutes of formal briefings are taken to record pertinent information discussed.



**3.7 The Health Physics Manager (HPM) / Dose Assessment Coordinator is responsible for:**

- 3.7.1 Ensuring Dose Assessment functions are being performed.
- 3.7.2 Providing radiological data to the RM and assist with briefings, as necessary.
- 3.7.3 Ensuring Field Teams are tracked and coordinated between the Department of Health – Bureau of Radiation Control.
- 3.7.4 Providing radiological information to support the Emergency News Center.
- 3.7.5 Ensuring communications with the NRC via the HPN are adequate.
- 3.7.6 Ensuring radiological data is posted on the boards.
- 3.7.7 Maintaining contact and comparing Dose Assessment results with the TSC.

**3.8 The Emergency Technical Manager (ETM) is responsible for:**

- 3.8.1 Supporting the TSC in problem solving based on engineering design and as-built construction details.
- 3.8.2 Performing core damage assessments and providing results to the Recovery Manager.
- 3.8.3 Maintaining communications with the TSC.

**3.9 The Emergency Control Officer (ECO) is responsible for:**

- 3.9.1 Maintaining awareness of plant conditions, media interest, and news releases.
- 3.9.2 Ensuring support is available for offsite agencies and Corporate Communications.
- 3.9.3 Performing a technical spokesperson function.
- 3.9.4 Approving press releases.

**3.10 The Nuclear Division Duty Officer (NDDO) is responsible for:**

- 3.10.1 Remaining available via either telephone or pager contact for the entire duty period.
- 3.10.2 Functioning as the ECO until a designated ECO is obtained and a proper turnover has been given.
- 3.10.3 Serving as technical advisor and INPO interface.

**4.0 DEFINITIONS**

- 4.1 None.

5.0 **PROCEDURE****NOTE**

*To assure timely activation, EOF responders shall be ready to assume their duties as soon as practical upon entering the EOF.*

5.1 The First Emergency Responders to the EOF should perform the following:

## 5.1.1 For Activation:

1. Upon arrival at the EOF, unlock the double entrance doors to the facility by use of Corporate ID or assistance from General Office (G.O.) Security Operations personnel. The doors should then be blocked open to allow access to responders arriving thereafter.
2. Turn lights on to the facility using the light switches located on the left wall.
3. Sign in on the EOF Access Log (or a form similar to Attachment 6) and indicate FFD Status.
4. Sign in on the EOF Staff Accountability Board.
5. Report to your work area and proceed with any additional activation steps outlined in this procedure applicable to your emergency response position.
  - a. Consult Figures 1 and 2 for directions to and layout of the EOF, as necessary.
  - b. The Turkey Point EOF is on the fifth floor of the General Office Building located at 9250 West Flagler Street in Miami.

**Emergency Operations Facility (EOF)  
Activation and Operation**

5.2 The Emergency Security Manager (ESM) and Security Personnel should perform the following:

5.2.1 For Activation:

**CAUTION**

*Security must perform a security sweep of the EOF and should be dispatched as soon as possible to the facility.*

**NOTE**

*EOF personnel already in place should not be impacted or impeded by security check-in process.*

1. The Emergency Security Manager should notify General Office (G.O.) Security Operations of activation of the EOF and the ENC, if necessary.
  - a. The Emergency Security Manager should notify G.O. Security Operations that any individual presenting a valid state, county, or NRC ID, be granted access for the duration of the event.
2. Upon arriving at the EOF, the ESM shall ensure the following is performed:
  - a. Sign in on the EOF Access Log, indicate FFD status, and ensure that security support personnel have signed in and indicated FFD status.
  - b. Sign in on the EOF Staff Accountability Board and ensure that security personnel have signed in.
  - c. Ensure controlled procedures are retrieved and used.
  - d. Ensure security sweep of the EOF has been performed or is in progress.
  - e. Ensure Intoxilizer has been turned on and calibration has been performed and calibration date is current.

**CAUTION**

*Security controls in the EOF should be established in a manner that will minimize the impact on responders activating the EOF.*

- f. Set up security checkpoint at the EOF entrance.
  - (1) Verify that responders to the EOF are presenting valid IDs or are listed in the ERD.

**Emergency Operations Facility (EOF)  
Activation and Operation**5.2.1.2.f (Cont'd)

- (2) Verify that no media personnel are allowed to access the EOF.
- (3) Verify that individuals are signing in on the EOF Access Log.
- (4) Verify that Fitness for Duty screening requirements are being performed, as necessary.
- (5) Verify that responders are signing in on the EOF Staff Accountability Board.
- g. Ensure that an additional table is set up at the G.O. South employee entrance to process off-site agency EOF and ENC responders.
- h. Ensure communication capability with the TSC Security Supervisor and Local Law Enforcement Agencies (LLEA) is available.
- i. Ensure requirements for granting prompt access for NRC Event Team responders to the TSC/EOF have been initiated as necessary.
- j. Obtain an update from the TSC Security Supervisor.
  - (1) Discuss alternate routes for accessing the site as necessary.
3. Inform the Recovery Manager that activation steps have been completed.

**5.2.2 For Operation:**

1. Supervise and maintain security in the EOF and ENC.
  - a. Ensure that measures are in place to verify that only authorized personnel are allowed into the EOF.
  - b. Ensure that all EOF responders are logging in on the EOF Access Log and indicating their FFD status.
  - c. Ensure that press is not allowed to leave the ENC Auditorium and Press Phone Area.
2. Ensure that provisions for Fitness For Duty inquiry and testing are maintained in the EOF in accordance with Nuclear Division policies and Security Instructions.

**Emergency Operations Facility (EOF)  
Activation and Operation**5.2.2 Cont'd)**NOTE**

*Phone numbers for LLEAs are listed in the ERD.*

3. Provide liaison between LLEAs and the Site to address coordination needs including:
  - a. Request for bomb squads or law enforcement to address terrorist activities or civil unrest.
  - b. Alerting law enforcement of press or curious public near the plant site.
  - c. Coordination of access for fire/emergency medical vehicles and plant emergency responders.
  - d. Status of traffic flow leaving site if a site evacuation is ordered.
4. Ensure that requirements for granting prompt access for NRC responders to the TSC/EOF have been completed.
5. Using Attachment 4, record actions taken in accordance with this procedure.
6. Maintain status of injured or injured/contaminated individuals once they have been transferred from the site to an off-site medical facility using a form similar to Attachment 3.
7. Inform the Recovery Manager of security issues as they occur.

5.3 The EOF Supervisor or designee should perform the following:

5.3.1 Activation

1. Sign in on the EOF Access Log, indicate FFD status, and ensure EOF Supervisor staff sign in and indicate FFD status upon entry.
  - a. RM Operations Advisor
  - b. Tech Assistant to the RM
  - c. HRD Communicator
  - d. ENS Communicator

**Emergency Operations Facility (EOF)  
Activation and Operation****5.3.1.1 (Cont'd)**

- e. ERDADS Operator
  - f. TSC Communicator
  - g. Administrative Supervisor
  - h. Administrative Staff
  - i. Status Board Keeper
2. Sign in on the EOF Staff Accountability Board and ensure EOF Supervisor staff sign in upon entry and begin performing activation steps.
  3. Ensure all facility personnel sign in on the EOF Staff Accountability Board.
  4. Ensure the steps outlined in Subsection 5.1, the First Emergency Responder Section of this procedure, have been completed.

**NOTES**

- *Qualified personnel who normally fill other positions may be used in minimum staff positions with required functions (i.e., notification/communication) to facilitate fastest possible operability of the EOF. Reference Enclosure 1 of 0-EPIP-1102, Duties of the Recovery Manager.*
- *The positions marked in red on the EOF Staff Accountability Board indicate the minimum number of personnel and positions required for EOF activation.*

5. Ensure the following EOF positions have been filled to satisfy minimum staffing requirements prior to the RM declaring the EOF operational.
  - a. Recovery Manager
  - b. RM Operations Advisor
  - c. Hot Ring Down Communicator
  - d. Dose Assessment Coordinators (2)
  - e. ERDADS Operator or TSC Communicator
6. Take actions to fill position vacancies within the EOF.
7. Verify with the State and County Personnel that their equipment in the EOF (phones, faxes, etc.) is functional.

5.3.1 (Cont'd)

8. For Alert, Site Area Emergency or General Emergency, ensure Risk Management notifies American Nuclear Insurers (ANI).
9. Inform the Recovery Manager that your activation steps have been completed.

5.3.2 For Operation:**NOTE**

*Communication links should not be left unattended.*

1. Verify operability of communication and notification links (HRD, ENS, etc.)
2. Verify timeliness of notifications via HRD, ENS, etc.

**NOTE**

*Status boards should be updated approximately every 15 minutes or as necessary.*

3. Ensure the Plant Parameter Status Board is maintained with current data.
4. Ensure the Sequence of Events Status Board is maintained with current information.
5. Ensure distributions are performed through the EOF Administrative Supervisor using Enclosure 3 as guidance.
6. Discuss with the RM the need to halt deliveries to the site (major equipment deliveries, mail, etc.).
  - a. As necessary, make contacts to halt deliveries.
7. Periodically check with the State and county personnel on the adequacy and operability of their equipment in the EOF (phones, faxes, etc.)
8. Resolve equipment and assessment capability problems.
9. Contact additional support as needed.
10. Schedule long term staffing as necessary.
11. Maintain a log of activities.

**Emergency Operations Facility (EOF)  
Activation and Operation****5.4 The RM Operations Advisor should perform the following:****5.4.1 For Activation:**

1. Sign in on the EOF Access Log and indicate FFD status.
2. Sign in on the EOF Staff Accountability Board.
3. Obtain copies of the PAR Discussion Items Form from 0-EPIP-1102, Duties of the Recovery Manager, and begin filling out the form for the initial RM update.
4. Ascertain plant status from the EOF TSC Communicator, TV System, or other available source.
5. Inform the RM that you have completed your activation steps.

**5.4.2 For Operation:**

1. Provide updates to the RM using the PAR Discussion Items Form from 0-EPIP-1102, Duties of the Recovery Manager, approximately every 45 minutes or upon significant changes.
2. Follow plant status using the EOF TSC Communicator, TV System, or other available source.
3. Remain current with emergency classification status and ensure current classification is posted.
4. Ensure the RM is aware of and updates the state and counties on the status of site evacuation and owner controlled area clearing progress as appropriate.
5. Routinely review EOPs progress with the RM, as necessary.
6. Assume the duties of the RM while the RM is conducting briefings, as necessary.
7. Assist the RM in preparing for briefings, as necessary.
8. Provide operations/plant status during briefings, as necessary.
9. Maintain the RM logbook.



**Emergency Operations Facility (EOF)  
Activation and Operation****5.5 The Technical Assistant to the RM should perform the following:****5.5.1 For Activation:**

1. Sign in on the EOF Access Log and indicate FFD status.
2. Sign in on the EOF Staff Accountability Board.
3. Determine present and potential future Emergency Action Level Status.
4. Ensure last notifications to off-site agencies correctly portrayed present situation.
5. Assist HRD Communicator with the completion of state notification forms, as necessary.
6. Acquire 0-EPIP-1102, Duties of the Recovery Manager, ensure completion of all applicable steps and inform the Recovery Manager of the status.
7. Inform the Recovery Manager that you have completed your activation steps.

**5.5.2 For Operation:**

1. Ensure all applicable steps of 0-EPIP-1102, Duties of the Recovery Manager, are completed.
2. Update the 10-mile EPZ map with Protective Actions issued.
3. Ensure the Plant Parameter Status Board and Sequence of Events Board accurately reflect the event.
4. Assist the RM in preparing for briefings, as necessary.
5. Provide operations / plant status during briefings, as necessary.
6. Assume the duties of the RM while the RM is conducting briefings, as necessary.
7. Maintain a log of activities.

# Emergency Operations Facility (EOF) Activation and Operation

## 5.6 The Hot Ring Down (HRD) Communicator should perform the following:

### 5.6.1 For Activation/Operation:

1. Sign in on the EOF Access Log and indicate FFD status.
2. Sign in on the EOF Accountability Board.

### CAUTIONS

- *Notification to the State Warning Point is required within 15 minutes of an emergency classification.*
- *Collection of Release Rate Data shall not delay State of Florida notification.*
- *If a transitory event has occurred, notifications are still required using this procedure.*
- *Every hour, unless upon termination, or as conditions change (PARs, classification, significant plant conditions) notifications should be made.*

### NOTES

- *If during the notification process, it becomes necessary to upgrade the emergency classification:*
- *Ensure that the State warning Point has been notified of the Emergency Declaration within 15 minutes of making the initial classification.*
- *Stop the current notification process, and*
- *Proceed to the steps corresponding to the new emergency classification, including notification of the new classification to the State Warning Point.*

3. Acquire copies of the Florida Nuclear Plant Emergency Notification Form (similar to Attachment 1).
4. Obtain a turnover from the TSC State/County Communicator to include the following:
  - a. Time of last update
  - b. Delegation of future notifications
  - c. Fax of previous Florida Nuclear Plant Emergency Notification Forms, if applicable.

5.6.1 (Cont'd)**NOTE**

*Notification forms should be filled out as neatly and completely as possible. Abbreviations should not be used.*

## 5. Complete a form similar to Attachment 1.

- a. Obtain Recovery Manager approval prior to transmitting the information.
6. If the State and county representatives are not in the EOF, transmit the information over the Hot Ring Down System or Backup System, as required.
7. If the State and County Representatives are in the EOF, 15 minute notifications should be met by transmitting the form through direct contact with the State Representative.

5.7 The Emergency Notification System (ENS) Communicator should perform the following:

## 5.7.1 For Activation/Operation:

1. Sign in on the EOF Access Log and indicate FFD status.
2. Sign in on the EOF Accountability Board.

**CAUTIONS**

- *Notification to the NRCOC is required immediately following a State Notification and within one hour of the emergency declaration.*
- *Collection of Release rate data shall not delay NRC notification.*
- *If a transitory event has occurred, notifications are still required using this procedure.*

3. Obtain copies of the Event Notification Worksheet Form (form similar to Attachment 2).

**Emergency Operations Facility (EOF)  
Activation and Operation****5.7.1 (Cont'd)**

4. Obtain a turnover from the TSC ENS Communicator to include the following:
  - a. Time of last update.
  - b. Delegation of future notifications.
  - c. Fax of previous Event Notification Worksheets Form (form similar to Attachment 2), if applicable.
  - d. Status of the ERDS link to the NRC and whether the NRC has been informed the link is in place.

**NOTE**

*Notification forms should be filled out as neatly and completely as possible. Abbreviations should not be used.*

5. If a continuous line of communication has not been established with the NRC, then perform the following:
  - a. Every hour complete a form similar to Attachment 2, unless less frequent updates are agreed to, upon termination, or as conditions change (PARs, classification, significant plant conditions).
  - b. Obtain Recovery Manager approval by having him/her review and initial the Event Notification Worksheet Form (form similar to Attachment 2).

**NOTE**

*The NRC may require a constant line of communication and both TSC and EOF may be requested to stay on the line.*

- c. Contact the NRCOC, as required, using the numbers on the phone (or in the Immediate Notification Section of the ERD).
  - d. Provide the information on the form.
  - e. If the ERDS link has been established and if not previously informed by the TSC, inform the NRC that the ERDS link is available.
  - f. If the NRCOC does not require a constant line of communication, notifications to the NRCOC should be performed as required.
6. Once a continuous line of communications has been established with the NRC, discontinue use of the form and record transmitted information and inquiries from the NRC in the logbook.

5.8 The ERDADS Operator should perform the following:

5.8.1 For Activation:

1. Sign in on the EOF Access Log and indicate FFD status.
2. Sign in on the EOF Accountability Board.
3. Verify ERDADS operability:
  - a. Verify the displays indicate the correct unit.
    - (1) To change unit
      - (a) Press <CLEAR>
      - (b) Type PUP UNIT (3 or 4)
      - (c) Press <EXEC>
      - (d) Unit Change Complete message should appear.
  - b. Check that the following displays are available:
    - (1) Off-site Dose Radiological Data (R3/4)
    - (2) Emergency Plan Data (ED3/4)
    - (3) Environmental Trends (MC3/4ENV)
    - (4) Meteorological Parameter Verification (EP3/4ENV)
    - (5) PTN Status Unit ¾ (U3/4)
  - c. Check that the color plotter is operable.
  - d. Check that the two line printers are operable.

5.8.2 For Operation:

1. Call up ERDADS information as requested.
2. Provide printouts to the EOF Staff.
3. Observe ERDADS data during intervals between report printing for significant changes and trends.
4. Report changes to the RM or RM Ops Advisor.

**Emergency Operations Facility (EOF)  
Activation and Operation****5.8.2 (Cont'd)**

5. If ERDADS is inoperable or printouts are unavailable, then:

- a. Assist EOF Communicators in collecting plant parameter and radiological data.
- b. Contact the TSC ERDADS operator to report the problem and request faxes, if necessary.

5.9 The TSC Communicator should perform the following:

5.9.1 For Activation:

1. Sign in on the EOF Access Log and indicate FFD status.
2. Sign in on the EOF Accountability Board.
3. Establish communications with the TSC using the numbers in the ERD.
4. Request fax copies of the Emergency Coordinator Log and provide to the EOF RM Operations Advisor.
5. Obtain a turnover from the TSC EOF Communicator, including all events and activities that have occurred up to this point (request fax copies of the TSC Sequence of Events Board and the TSC Plant Parameters Status Board).
6. Update the Sequence of Events Board with the turnover information.

5.9.2 For Operation:

1. Maintain communications with the TSC.
2. Update the Sequence of Events Board with current information.
3. If ERDADS is out of service obtain plant status information through the phone in communication with the TSC

5.10 The Administrative Supervisor should perform the following:

5.10.1 For Activation:

1. Sign in on the EOF Access Log, indicate FFD status, and ensure EOF Administrative staff sign in promptly and indicate FFD status upon entry.
2. Sign in on the EOF Accountability Board and ensure EOF Administrative staff sign in and begin assisting with activation steps upon entry.
3. Ensure the Simu-Fax is operable per Enclosure 2.

**Emergency Operations Facility (EOF)  
Activation and Operation****5.10.1 (Cont'd)****NOTE**

*Due to humidity effects on paper, copy paper and fax paper should be changed out to avoid paper jams.*

4. Copy machines in the Administrative Support and Dose Assessment areas have been turned on and are functional.
5. Fax machines have been turned on and are operable.
6. TV monitors have been turned on and video and audio of the TSC have been verified as operable.
  - a. One TV should be viewing the TSC, the other should be viewing the ENC.
  - b. If problems with video or audio exist, contact the TSC Site Corporate Communicator (phone number in ERD).
7. Verify audibility of the speaker system throughout the EOF and adjust speakers as required.
8. Synchronize all clocks in the facility using ERDADS time as official time.

**5.10.2 For Operation:**

1. Ensure correspondence is being faxed as necessary to the phone numbers programmed in the Simu-fax (also listed in the ERD, Section 5.0).
2. Ensure distributions are performed as per Enclosure 3.
3. Ensure minutes of formal briefings are taken to record pertinent information discussed.
4. Ensure adequate measures are in place to meet personal needs such as food, water, etc. both at the EOF and the plant.
5. Arrange hotel reservations and car rentals for incoming personnel as necessary.

**Emergency Operations Facility (EOF)  
Activation and Operation****5.11 The Status Board Keeper should perform the following:****5.11.1 For Activation/Operation:**

1. Sign in on the EOF Access Log and indicate FFD status.
2. Sign in on the EOF Accountability Board.
3. Ensure update of the Plant Data Status Board is initiated/performed using ERDADS printouts (Emergency Plan Data [ED3/4]) and the sequence of Events Board.
4. If ERDADS is out of service obtain plant parameter data through the phone in communication with the TSC.
5. Make corrections to the board, when identified, by circling the corrected data.
6. When all status board columns/blanks are filled, erase the first two columns/blanks, enter new data, with a different colored marker, leaving a space between the new and the old data.

**5.12 The Health Physics Manager (HPM) / Dose Assessment Coordinator should perform the following:****5.12.1 For Activation:**

1. Sign in on the EOF Access Log, indicate FFD status, and ensure all Dose Assessment Staff sign in and indicate FFD status upon entry.
  - a. Dose Assessment Coordinators
  - b. Dose Assessment Recorder
  - c. Field Monitoring Coordinator
  - d. Field Monitoring Recorder
  - e. HPN Communicator
2. Sign in on the EOF Staff Accountability Board and ensure all Dose Assessment Staff sign in upon entry and begin performing activation steps.



5.12.1 (Cont'd)**NOTE**

*If current dose calculations from the TSC are available in the EOF, the performance of dose calculations by the EOF staff should not delay EOF activation.*

3. Establish communications with the Dose Assessment personnel in the TSC and obtain an update on present or potential releases.
4. Request copies of previously performed dose assessments from the TSC.
5. Turn on the Dose Assessment Computer System and verify operability.
  - a. Synchronize the date and time of the computer with ERDADS.
6. Complete Class A Model QC check.
7. Ensure off-site dose calculations are initiated in accordance with 0-EPIP-20126, Off-site Dose Calculations.
8. Verify operability of the EOF Dose Assessment fax machine.
9. Acquire copies of the PAR Discussion Items form from 0-EPIP-1102, Duties of the Recovery Manager, and provide updates to the Recovery Manager as requested.
10. Inform the Recovery Manager that you have completed your activation steps.

**5.12.2 For Operation:**

1. Ensure off-site dose calculations are being performed in accordance with 0-EPIP-20126, Off-Site Dose Calculations, in conjunction with the TSC.
2. Obtain input data for the Class A model from ERDADS.
3. Provide updates to the RM for the PAR Discussion Items Form approximately every 45 minutes or upon significant changes.
4. Ensure Field teams are tracked and coordinated between the TSC and the DOH-BRC.
5. Review/compare field monitoring results with dose calculations.

**Emergency Operations Facility (EOF)  
Activation and Operation****5.12.2 (Cont'd)**

6. Coordinate Dose Assessment with the TSC.
7. Provide radiological information to support the ENC.
8. Ensure adequate communication is provided via the HPN.
9. Ensure status boards in the Dose Assessment Area are being updated by providing update information to the Dose Assessment Recorder.
10. Assist the RM in preparing for briefings, as necessary.
11. Provide radiological data in briefings, as necessary.
12. Maintain a log of activities.

5.13 The Dose Assessment Recorder should perform the following:

**5.13.1 Operation:**

1. Sign in on the EOF Access Log and indicate FFD status.
2. Sign in on the EOF Staff Accountability Board.
3. Report to the EOF HP Manager or Dose Assessment Coordinator for special instructions.

**5.13.2 For Operation:**

1. Obtain data from Dose Assessment Coordinator.
2. Update the Dose Assessment and Process Radiation Monitoring System status boards in the Dose Assessment Area in a timely manner.
3. Make corrections to the board, when identified, by circling the corrected data.
4. When all status board columns/blanks are filled, erase the first two columns/blanks, enter new data, with a different colored marker, leaving a space between the new and the old data.

5.14 The Field Monitoring Coordinator should perform the following:

5.14.1 For Activation:

1. Sign in on the EOF Access Log and indicate FFD status.
2. Sign in on the EOF Staff Accountability Board.
3. Establish contact with the TSC Offsite Team Leader.
4. Determine location of offsite field teams and indicate on EPZ maps.

5.14.2 For Operation:

1. Coordinating FPL teams with DOH-BRC Control teams, and other offsite agencies, if present, and the TSC Offsite Team Leader.
2. Request the TSC offsite Team Leader to send FPL field monitoring teams to survey locations.
3. Compare field team results to dose calculations by performing calculations on Attachment 7 or a similar form.
4. Provide field team data to the Health Physics Manager to supplement Protective Action Recommendations data and to assist in defining the level of emergency classification.

5.15 The Field Monitoring Recorder should perform the following:

5.15.1 For Activation/Operation:

1. Sign in on the EOF Access Log and indicate FFD status.
2. Sign in on the EOF Staff Accountability Board.
3. Assist the Field Monitoring Coordinator with update of EPZ maps and Field Monitoring Board.

5.16 The Health Physics Network (HPN) Communicator should perform the following:

5.16.1 For Activation:

1. Sign in on the EOF Access Log and indicate FFD status.
2. Sign in on the EOF Staff Accountability Board.
3. Establish connection on the NRC HPN conference bridge, as necessary.

**Emergency Operations Facility (EOF)  
Activation and Operation****5.16.2 For Operation:**

1. Maintain communications with the NRC through the Health Physics Network (HPN).
2. Log all questions from the NRC in the logbook.
3. Obtain answers to questions from the appropriate EOF personnel.
4. Maintain documentation of any significant information provided or received.
5. Assist the Health Physics Manager, as necessary.

**5.17 The Emergency Technical Manager (ETM) should perform the following:****5.17.1 For Activation:**

1. Sign in on the EOF Access Log, indicate FFD status, and ensure that all Engineering staff sign in and indicate FFD status upon entry.
2. Sign in on the EOF Staff Accountability Board and ensure that all Engineering staff sign in upon entry.

**CAUTION**

*Use controlled documents and drawings for Engineering Assessments and Evaluations.*

3. Obtain controlled procedures for use by Engineering staff.
4. Ensure staffing is in place and communications have been established with the TSC.
5. Obtain system availability status from System Operations or the TSC Lead Engineer.
6. Obtain an update from the TSC Engineering staff of previous and current events.

**NOTE**

*See Enclosure 4 for ERDADS data point descriptions for Turkey Point Plant.*

7. Obtaining data from ERDADS for use by EOF staff.
8. Ensure computers have been turned on and functionally checked.

**Emergency Operations Facility (EOF)  
Activation and Operation****5.17.1 (Cont'd)**

9. Ensure aperture card readers and microfiche readers are turned on and functional.
10. Inform the Recovery Manager when the Engineering staff is ready to perform the following:
  - a. Engineering assessment of the event.
  - b. Evaluation of long term plant actions to mitigate consequences of the event.
  - c. Core damage assessment in accordance with 0-EPIP-1302, PTN Core Damage Assessment.
11. Inform the Recovery Manager that you have completed your activation steps.

**5.17.2 For Operation:****CAUTION**

***Engineering staff should not request or direct site staff to perform any operational actions. Engineering evaluations should be given to the ETM.***

1. Promptly inform the Recovery Manager of engineering recommendations, determinations or analysis results.
  - a. The Engineering Technical Response Worksheet, Attachment 5, or similar form should be used to document engineering recommendations, determinations or results.
  - b. The Emergency Technical Manager Task Board should be used to track tasks assigned to the EOF Engineering Staff.
2. Ensure that the following items are performed:
  - a. Plant conditions via ERDADS are available to the EOF Engineering Staff.
  - b. Core damage assessment calculations are performed as appropriate.
3. Support the TSC in problem solving based on engineering design and as built construction details. This service shall be performed under the direction of the Recovery Manager.

**5.17.2 (Cont'd)**

4. Evaluate long-term plant actions to mitigate the consequences of the event.
5. Request occasional updates on TSC Engineering tasks via fax or phone, as necessary.
6. Inform the RM of engineering recommendations, determination or analysis results.
7. Assist the RM in preparing for briefings.
8. Participate in briefings, as necessary.
9. Maintain a log of activities.

**5.18 The Emergency Control Officer (ECO) should perform the following:****5.18.1 For Activation:**

1. Sign in on the EOF Access Log, indicate FFD status, and ensure the EIM/ENC Technical Advisors and NDDO sign in and indicate FFD status upon entry.
2. Sign in on the EOF Staff Accountability Board and ensure the EIM/ENC Technical Advisors and NDDO sign in upon entry.
3. Ensure the EIM has the necessary EIM/ENC Technical Advisors.
4. Ensure the ENC staff is available to support the EIM.
5. Ensure the County EOC Technical Advisors are in place to support the county EOCs.
6. Inform the Recovery Manager that you have completed your activation steps.

**5.18.2 For Operation:**

1. Assist with governmental agency and Regulatory Affairs interface.
  - a. Updates to Tallahassee Governmental Affairs for Unusual Events may be performed on a case by case basis.
  - b. Information updates to Tallahassee Governmental Affairs should be performed for an Alert or higher classification.

**Emergency Operations Facility (EOF)  
Activation and Operation****5.18.2 Cont'd)****2. When the EOF is activated:****NOTE**

*See Enclosure 1 for directions to the State EOC in Tallahassee.*

- a. Dispatch a Governmental Affairs person to the State EOC to provide interface as directed.
- b. Provide liaison functions to elected or appointed public officials.
- c. Answer any questions or comments from:
  - (1) Nuclear Regulatory Commission
  - (2) Division of Emergency Management
  - (3) Department of Health – Bureau of Radiation Control
  - (4) County Emergency Management
  - (5) Regulatory Affairs
- d. Interface with the Governor's Advisor and with the County EOC Technical Advisors.

**CAUTION**

*The NDDO should remain readily accessible to function for interim ECO notification purposes until the ECO is at the EOF. The NDDO should then proceed to the EOF. As practical, while enroute to the EOF, the ECO should contact the NDDO for updates on plant conditions.*

3. Review the plant status, radiological concerns, and EOF staffing with the RM.

**CAUTION**

*The ECO must approve news releases prior to their issue. This approval may be verbal or in writing.*

4. Contact the EIM and get an update on the status of draft news releases. If not already done, a news release should be issued as soon as practical after the EOF is operational with an update of plant conditions.

5.18.2 (Cont'd)

5. Continue to maintain awareness of plant conditions, media interest and news references, and governmental agencies' actions and concerns.
6. Perform a technical spokesperson function in news media briefings utilizing the guidelines in Enclosure 5 as necessary.
7. Ensure the RM is informed of activities involving the GAM, Regulatory Affairs, and Risk Manager.
8. Ensure the RM is aware of primary concerns of the media and the public.

5.19 The Nuclear Division Duty Officer (NDDO) should perform the following:

5.19.1 For Activation:

1. Sign in on the EOF Access Log and indicate FFD status.
2. Sign in on the EOF Staff Accountability Board.
3. Serve as advisor to the EIM, GAM, Regulatory Affairs or Risk Manager on technical matters as necessary.
4. Locate the ECO Logbook and initiate logkeeping for the ECO.

5.19.2 For Operation:

1. Serve as ECO in the EOF until a designated ECO is obtained and proper turnover has been given, or during periods of time when the ECO leaves the facility.

NOTE

*The phone number for INPO can be found in the ERD.*

2. For alert classifications or higher, notify INPO and provide a brief update of the event.
  - a. Request INPO assistance to submit press over Nuclear Network, and informing FPL of any media inquiries or industry assistance of the event.
  - b. Document conversations in the ECO Logbook.
3. Provide support to the ECO as necessary.



5.20 The Emergency Information Manager (EIM) / Emergency News Center (ENC) Technical Advisors should perform the following:

5.20.1 For Activation:

1. Sign in on the EOF Access Log and indicate FFD status.
2. Sign in on the EOF Accountability Board.
3. Report to the Emergency Information Manager for special instructions.

5.20.2 For Operation:

**NOTE**

*One Tech Advisor is normally assigned to support the EIM in the EOF with press releases while the other will assist the ENC with media briefings.*

1. Provide technical assistance to the EIM/ENC Manager and staff.
2. Assist the EIM with preparation of press releases.
3. Provide technical expertise and answer questions during briefings of the media (Reference Enclosure 5).
4. Provide technical expertise and answer questions for the other agencies' Public Information Officers.
5. Maintain contact with the other technical advisor or RM Staff member to make sure that information is current and accurate and to provide feedback on issues discussed with the media.

5.21 The County Emergency Operations Center (EOC) Technical Advisors should perform the following:

5.21.1 For Activation/Operation:

1. Proceed to the assigned County EOC when instructed to do so.

**NOTE**

*Phone numbers for the ENC and EOF may be found in the ERD, Section 4.0.*

2. Introduce yourself to the County EOC staff.

**Emergency Operations Facility (EOF)  
Activation and Operation****5.21.1 (Cont'd)**

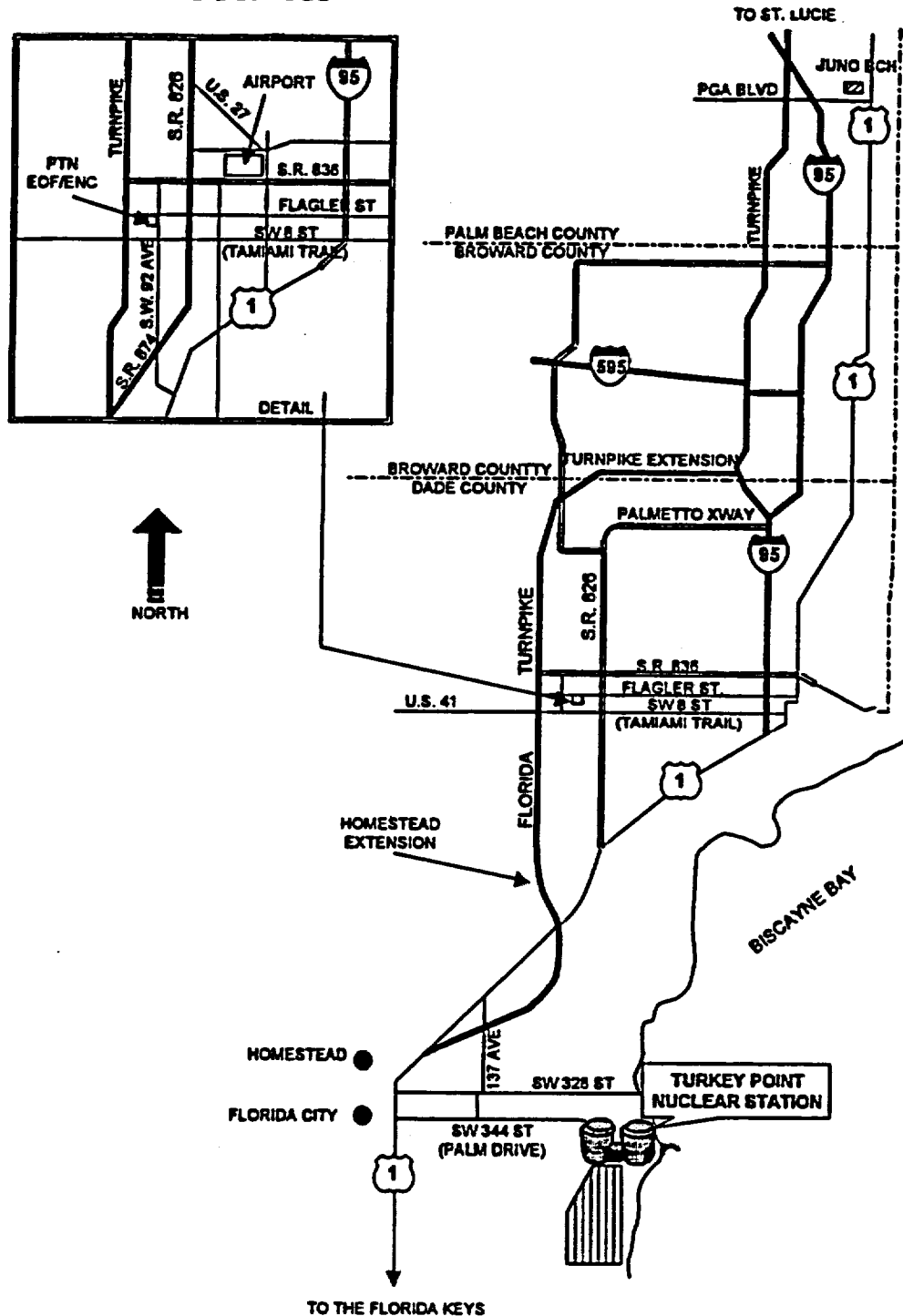
3. Establish contact with a member of the EOF RM Staff to obtain technical information (emergency status information, reports on plant recovery, etc.).
4. Establish contact with the ENC Technical Advisor for non-technical, public concerns.
5. Provide contacts in the EOF/ENC with a number where you can be reached.
6. Advise the County EOC staff on the plant status and status of the emergency.
7. Participate in EOC briefings.
8. Advise the ENC of any county actions that have been taken or are under consideration, including Emergency Alert System messages and all protective actions initiated by the county.
9. Alert the ENC prior to activation of the EPZ Siren System by Dade County.
10. When county EOC personnel ask questions regarding activities taking place at any FPL facility, contact the ENC Technical Advisor or a member of the RM staff for answers.
11. Stay abreast of rumors that come into the County or State Rumor Control and pass on information (and responses) to the ENC so all responses will be consistent.
12. Verify receipt of any FPL news releases sent to the EOC.
13. Keep a log of all activities at the EOC and a record of questions called into the EOF/ENC and responses received.

**END OF TEXT**

FIGURE 1  
(Page 1 of 1)

## EOF DIRECTIONS

## DIRECTIONS TO PTN EOF



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# Emergency Operations Facility (EOF) Activation and Operation

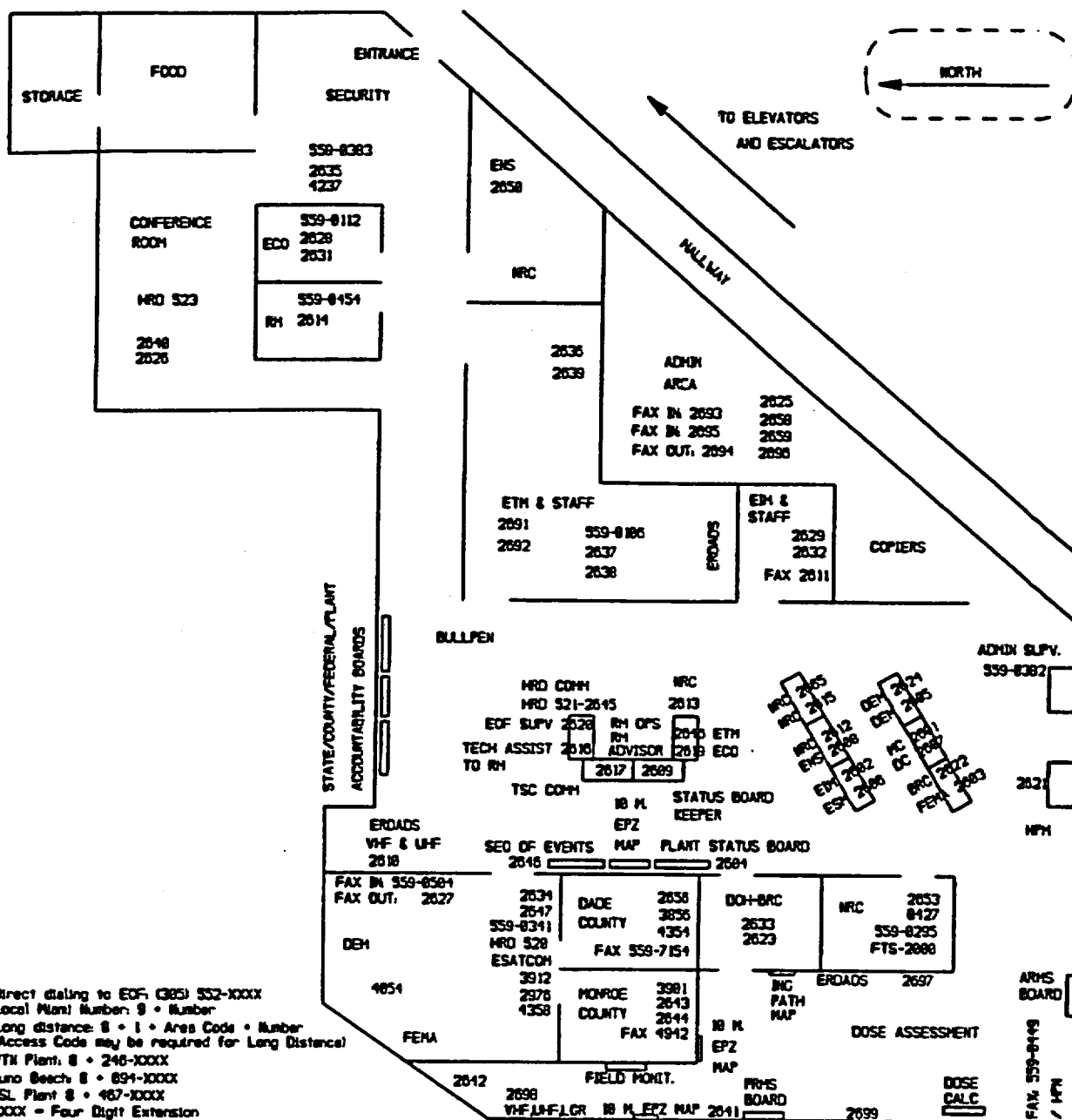
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FIGURE 2

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## EOF LAYOUT



Direct dialing to EOF: (385) 552-XXXX  
 Local Plant Number: 9 • Number  
 Long distance: 8 • 1 • Area Code • Number  
 (Access Code may be required for Long Distance)  
 PTH Plant: 8 • 246-XXXX  
 Juno Beach: 8 • 694-XXXX  
 PSL Plant: 8 • 467-XXXX  
 XXXX - Four Digit Extension

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**ENCLOSURE 1**

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**DIRECTIONS TO STATE EOC IN TALLAHASSEE****Directions:**

From Tallahassee Regional Airport (TLH):

- Take Capitol Circle EAST, past Rt. 319 intersection to Centerview Drive (approximately 12 miles)
- At office complex on left (Koger Center), turn left on Centerview Drive
- Turn right into first parking lot. Located on 1st floor, southeast side of building you will be facing the State EOC as you enter the parking lot.

**ENCLOSURE 2**

(Page 1 of 2)

**SIMU-FAX INSTRUCTIONS**

1. In the Admin Area of the EOF, locate the computer with the scanner attached.
2. Ensure computer is on.
3. Login using your normal computer ID (SLID) and your password.
4. Once logged in, locate the fax icon located on the bottom right of the task bar.
5. Click on fax machine and denote the printer as \JBXSA58/HPFAX or Rightfax printer.
6. Click on fax machine and then click on FaxUtil.
7. If prompted to login, use State Notification-Don Mothena without a password. This will get you the phonebook with all of the drill/emergency related fax machines. If logged in on your own SLID, access the top right scroll bar and change your phonebook to State\_Notificaiton, Don Mothena.
8. To fax, click on menu item Fax and then New.
9. The fax screen will open.
10. Click on Phonebook.
11. To fax to All Points, click the block to the left of ALL\_STATE\_NOT, then click OK.
12. After choosing the fax designation, you will be returned to the fax screen.
13. Click on the scan button and ensure the document to be sent is in the scanner.
14. Enter the number of pages you will be scanning in the designated block.
15. Click on scan.
16. You will be returned to the previous screen.
17. Ensure that the cover sheet option at the bottom left of the screen does not have a check in it (cover sheets are not desired).
18. Click on the Send button (top right).
19. You will be returned to the main screen where In-process faxes will show as line items.

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**ENCLOSURE 2**  
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**SIMU-FAX INSTRUCTIONS**

20. Once the fax has been delivered, you can see it by choosing **List** from the Menu Bar, then clicking on **Sent Fax List (Outbound)**. Only completed faxes will be listed here. If the fax remains in the in-process page, that means it has not been delivered. Attempts to continue delivering the fax will continue, if you note that a certain fax has not been delivered, you should attempt to confirm the fax number to that location.
21. Individuals may be added to the list as needed or just entered for a one time fax, if needed. To enter the fax one time, click on fax and new, put the individual's name and fax number in the appropriate location, scan your document and click send.

**Emergency Operations Facility (EOF)  
Activation and Operation**

**ENCLOSURE 3**

(Page 1 of 1)

**TYPICAL DISTRIBUTION OF INFORMATION IN THE EOF****NOTE**

*This is a typical distribution of information at the EOF. The distribution may be changed as necessary due to organizational needs and circumstances.*

Place all distributions under appropriate phone in bullpen or in incoming trays in offices.

**OFFSITE DOSE PROJECTION REPORT:**

Recovery Manager (bullpen)  
Emergency Control Officer (bullpen)  
Hot Ring Down Communicator (bullpen)  
Emergency Notification System (ENS) Communicator (bullpen)  
Emergency Information Manager (bullpen)  
NRC (bullpen)  
NRC (office)  
Department of Health - Bureau of Radiation Control (bullpen)  
State DEM (office)  
Dade County (office)  
Monroe County (office)

**ERDADS PRINTOUTS:**

Plant Parameter Status Board Keeper (bullpen)  
Emergency Control Officer (bullpen)  
Emergency Information Manager (bullpen)  
Dose Assessment Coordinator (office) [should be provided with a color original]  
Emergency Technical Manager (bullpen)  
Emergency Technical Manager's Staff (office)

**FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORMS  
AND NRC EVENT NOTIFICATION WORKSHEETS:**

Recovery Manager (bullpen)  
Emergency Control Officer (bullpen)  
Hot Ring Down Communicator (bullpen)  
ENS Communicator (bullpen)  
Emergency Information Manager (bullpen)  
NRC (bullpen)  
NRC (office)  
Department of Health - Bureau of Radiation Control (bullpen)  
State DEM (office)  
Dade County (office)  
Monroe County (office)

**NEWS RELEASES:**

Recovery Manager (bullpen)  
Dose Assessment Coordinator (office)  
NRC (bullpen)  
NRC (office)  
Department of Health - Bureau of Radiation Control (bullpen)  
State DEM (office)  
Dade County (office)  
Monroe County (office)



## ENCLOSURE 4

(Page 1 of 8)

## ERDADS DATA POINT DESCRIPTIONS

NOTES

- *The point you type in will become the point being monitored, until the display is cleared or changed to a different one.*
- *Remember that digital points are either a zero (0) or a one (1) (ON or OFF).*
- *When looking at valve positions, be aware that the point name for most Motor Operated Valves (MOV) contains a O or C in the name to indicate whether it is the OPEN or the CLOSED limit switch; for example, MOV864AO-3. The valve is MOV-864A on Unit 3 and it is the OPEN limit switch. This means that when this point is ON or is 1, the valve is fully open.*
- *For some valves, ERDADS generates a calculated analog, e.g., MOV864A-3 is an analog point that can only have the value of 0, 1, 2, or 3. These valves are derived from the four possible combinations of the OPEN and CLOSED limit switches.*

To monitor an analog and digital plant parameter, using the Point Value (PTV) display:

1. Type PTV.
2. Press <DSPLY>.

NOTE

*The display is divided into two areas: The left side displays monitored analog points; the right side digital points. The <TAB> will move the cursor sequentially through the entry areas alternating between the analog and digital side of the screen.*

3. Position the cursor using the <TAB+> and <TAB-> to an analog point (on the left), or to a digital point (on the right).
4. Type in a desired analog (or digital) point.
5. Press <ENTER>.

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**ENCLOSURE 4**  
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**ERDADS DATA POINT DESCRIPTIONS**

The following data point descriptions for Turkey Point Plant correspond with the data normally tracked on the Operations Parameters Status Board. Consult ERDADS Manual, as necessary, for verification of point ID, point names or description information.

POINT DESCRIPTION	PT ID	POINT NAME	TYPE CALCULATION	NOTES
Avg. HL Temp	885	THAVTEMP-3	Average	The average of the three loop average Th.
RCS Pressure WR	759	RCSAVPRES-2	Average	The RCS pressure is the average of the available valid channels. If one channel is good, then its value will be used. If both inputs are invalid, an average of the two channels will occur, and the result will be flagged as bad, PT404 and PT406 monitor the hot leg pressure of RCS loops B and A respectively.
Pressure Avg Level	785	PRZ-AVLVL-3	Average	The pressurizer average level is calculated by the redundant sensor algorithm. At least two channels must agree within 8% of the calculated rejection value for a valid output. The Instrument range of 0-100% level is equivalent to 600-9050 gls. Transmitters are hot calibrated at 650 degrees F. Protection signals include: High level trip at 91% (2/3), a low low level alarm at 6%. Controls include: heaters off and letdown isolation at 14% high level alarm and heater on at LVL program + 5%, and low level alarm at LVL program -5%.
Charging Flow	439	FT122-3		Charging flow is provided by three electrically driven positive displacement pumps. The discharge is to a common header (flow is monitored on the common header). Flow is directed to a Loop A cold leg, PZR aux spray or Loop C hot leg. Charging flow also provides reactor coolant pump seal water flow. Charging flow rate is controlled by PZR level.
Core Exit Temperature	787	CET-3	Highest	CET-3 is the highest of the two calculated representative CET temperature (QSPDS Train A or B). The calculated representative CET temperature is the average of the highest eight valid CET temperatures for that train. Note: Train A has 26 CETS, Train B has 25.

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**ENCLOSURE 4**  
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**ERDADS DATA POINT DESCRIPTIONS**

<b>POINT DESCRIPTION</b>	<b>PT ID</b>	<b>POINT NAME</b>	<b>TYPE CALCULATION</b>	<b>NOTES</b>
RCS Subcooling	854	SMMILO-3	Lowest	The subcooling saturation margin is the lowest of two (QSPDS Train A and B) calculated RCS saturation margins in degrees fahrenheit. The RCS subcooling saturation margin is calculated using the highest RCS loop temperature.
Reactor Upper Head Level	768	RXHDLVLLO-3	Lowest	Reactor head level consists of the top two sensors (#1 and #2) of an eight sensor probe. The probe extends from the top of the head to the top of the fuel alignment plate. Each sensor consists of a heated and unheated thermocouple. The temperature difference between the thermocouples is used to detect a void. Sensor one is 178.8 inches above active fuel; indicated head level when uncovered is 33%, sensor two is 141.7 inches above active fuel; indicated head level when uncovered is 0%.
Reactor Plenum Water Level	895	RNPLLVLLO-3	Lowest	Reactor plenum levels consists of the lower six sensors of an eight sensor probe. Each sensor consists of a heated and unheated thermocouple. The temperature difference between the thermocouple is used to detect a void. Sensor numbers 3, 4, 5, 6, 7 and 8, when uncovered, indicate respectively 81%, 58%, 40%, 28%, 16%, and 0% plenum level. Each sensor's location above active fuel is respectively 127.6, 98.4, 69.1, 54.6, 40.1, and 23.7 inches. Note: sensors 5, 6 and 7 correspond to the top, center and bottom of the outlet nozzle, respectively.
RHR System Flow	437	FT605-3		FT605 measures the residual heat removal (RHR) flow. RHR is provided by two RHR pumps. Each pump discharges to its own associated heat exchanger. Flows from the heat exchanger are combined into a single header for penetration into containment. Flow in this line is measured by FT-605. Flow is then directed to Loops A, B and C cold legs.

**ENCLOSURE 4**  
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**ERDADS DATA POINT DESCRIPTIONS**

POINT DESCRIPTION	PT ID	POINT NAME	TYPE CALCULATION	NOTES
HHSI Flow to Bit to Cold Legs	452	FT943		FT943 measures HHSI flow to loops A, B and C cold legs. HHSI is provided by two electrically driven pumps. The water supply is the respective unit's RWST (322K gls). The discharge of each pump is directed to its own header. Note: The Unit 3 and 4 RWST and discharge headers are normally cross-connected.
Containment Temperature	769	CTMTVTMP-3	Average	The containment temperature is the average of three channels (TE6700, TE6701, and TE6702). Each channel uses a 200 ohm platinum RTD. All channels are located on the 58 ft. elevation at 120 degree intervals. TE6700 is near the B normal containment cooler, TE6701 is near the 3C normal containment cooler, and TE6702 is near the 3C emergency containment filters.
Containment Pressure	880			Note: Code chooses between current low or high range instrument values.
Containment Pressure	865			Note: Code chooses between current low or high range instrument values.
CTMT Hydrogen Concentration	788	CTMTG2CONC-3	Highest	Two channels of instrumentation are provided. The highest of which is being reported. A % hydrogen signal is developed by comparing the thermal conductivity of reference sample with the conductivity of a sample after removing any hydrogen. The system provides a high hydrogen alarm at 7.5%, low and high cell failure, calibration gas low pressure, reagent gas low pressure and low analyzer flow alarms.
Steam Gen. A Wide Range Level	375	LT477-3		The wide range instrument provides for 515 inches of level indication. This is equivalent to 750 gallons at 0% level and 27500 gallons at 100% level. The conversion from % to gallons is (0 to 51.9%, each % = 187.5 gls); (52 to 72.9%, each % = 273.8 gls); (73 to 100%, each % = 416.6 gls). Note: This instrument is cold calibrated.

**ENCLOSURE 4**  
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**ERDADS DATA POINT DESCRIPTIONS**

POINT DESCRIPTION	PT ID	POINT NAME	TYPE CALCULATION	NOTES
Steam Gen B Wide Range Level	379	LT487-3		The wide range instrument provides for 516 inches of level indication. This is equivalent to 750 gls at 0% level and 27500 gls. at 100% level. The conversion from % to gallons is (0 to 51.9%, each % = 187.5 gls); (52 to 72.9%, each % = 273.8 gls); (73 to 100%, each % = 416.6 gls). Note: This instrument is cold calibrated.
Steam Gen. C Wide Range Level	383	LT497-3		This wide range instrument provides for 516 inches of level indication. This is equivalent to 750 gls at 0% level and 27500 gls at 100% level. The conversion from % to gallons is (0 to 51.9%, each % = 187.5 gls); (52 to 72.9%, each % = 273.8 gls); (73 to 100%, each % = 416.6 gls). Note: This instrument is cold calibrated.
Steam Generator Pressure A	806	SGA-AVPRES-3	Average	The S/G pressure is an average calculated by the redundant sensor algorithm. At least two channels must agree within 120 psi of the calculated rejection value for a valid output. The sensing line for S/G pressure is located on the steam header on the S/G side of the MSIVs. These channels provide for the steam break ESFAS at (S/G press) = 1000 psi of (Header Press) (2/3 for 1/3 S/G) and low S/G pressure ESFAS at = 614 psi (2/3 S/G on protection set one only). Note: S/G press provides compensation to the steam flow channels.
Steam Gen. Pressure B	808	SGB-AVPRES-3	Average	The S/G pressure is an average calculated by the redundant sensor algorithm. At least two channels must agree within 120 psi of the calculated rejection value for a valid output. The sensing line for S/G pressure is located on the steam header on the S/G side of the MSIVs. These channels provide for the steam break ESFAS at (S/G press) = 1000 psi of (Header Press) (2/3 for 1/3 S/G) and low S/G pressure ESFAS at = 614 psi (2/3 S/G on protection set one only). Note: S/G press provides compensation to the steam flow channels.

**ENCLOSURE 4**  
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**ERDADS DATA POINT DESCRIPTIONS**

POINT DESCRIPTION	PT ID	POINT NAME	TYPE CALCULATION	NOTES
Steam Generator Pressure C	810	SGC-AVPRES-3	Average	The S/G pressure is an average calculated by the redundant sensor algorithm. At least two channels must agree within 120 psi of the calculated rejection value for a valid output. The sensing line for S/G pressure is located on the steam header on the S/G side of the MSIVs. These channels provide for the steam break ESFAS at (S/G press) = 1000 psi of (Header Press) (2/3 for 1/3 S/G) and low S/G pressure ESFAS at = 614 psi (2/3 S/G on protection set one only). Note: S/G press provides compensation to the steam flow channels.
Containment Radiation (WR)	790	CTMHRADW-3	Highest	CTMHRADW is the highest of the two input channels RAD6311A and RAD6311B. Both channels used ion chamber detectors. RAD6311 is located inside containment on the 25 ft elevation near the personnel hatch. RAD6311B is located at about the 64 ft. elevation of the S/G shield wall near the pressurizer arms channel R-2. These channels have two high alarm setpoints. On a high alarm, an annunciator will be actuated.
Refueling Water Tank Level	844	RWSTLOLVL-3	Lowest	Each RWST level loop consists of a Rosemount DP transmitter and Foxboro modules to provide alarm and indication functions. Alarms provided are: low-low level at 60,000 gallons, low level at 155,000 gallons. Tech Spec level at 322,000 gallons, and high level at 333,000 gallons.

**ENCLOSURE 4**  
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**ERDADS DATA POINT DESCRIPTIONS**

POINT DESCRIPTION	PT ID	POINT NAME	TYPE CALCULATION	NOTES
Aux-Feedwater Flow A SG	821	SGAFWFLO-3	Sum	The AFW flow is the sum of trains one and two for each S/G. The aux feed is supplied by three steam driven pumps which discharge to two redundant trains. Each train supplies flow to both units and may feed any of the S/Gs. Administratively Pump A is aligned to Train one Pump B and C to Train two. The condensate storage tanks (250K gls ea) are the normal supply to the Aux Feed System.
Aux Feedwater Flow B SG	824	SGBAFWFLO-3	Sum	The AFW flow is the sum of trains one and two for each S/G. The aux feed is supplied by three steam driven pumps which discharge to two redundant trains. Each train supplies flow to both units and may feed any of the S/Gs. Administratively pump A is aligned to Train one; Pumps B and C to Train two. The condensate storage tanks (250K gls ea) are the normal supply to the Aux Feed System.
Aux Feedwater Flow C SG	827	SGCAFWFLO-3	Sum	The AFW flow is the sum of trains one and two for each S/G. The aux feed is supplied by three steam driven pumps which discharge to two redundant trains. Each train supplies flow to both units and may feed any of the S/Gs. Administratively Pump A is aligned to train one, Pump B and C to train two. The condensate storage tanks (250K gls. ea.) are the normal supply to the Aux Feed System.

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ERDADS DATA POINT DESCRIPTIONS				
POINT DESCRIPTION	PT ID	POINT NAME	TYPE CALCULATION	NOTES
Condensate Storage Tank Level	843	CSTLOGAL-3	Minimum	Lowest of the two tank level transmitters is used.
Stm Dump to ATMOS Stm Gen A	630	CV1606		Valve stem contact switch provides for a closed or not closed indication.
Stm Dump to ATMOS Stm G B	631	CV1607		
Stm Dump to ATMOS Stm G C	600	CV1608		
Pressurizer PORV from PT444	H20	PCV455C		Valve position is calculated from current status of the two valve position switches. Calculation will give one of four results based on the two input switches. Positions given are: Failed, Open, Closed, and Throttled.
Pressurizer PORV from PT445	H21	PCV456		



**ENCLOSURE 5**

(Page 1 of 2)

**GUIDELINES ON BRIEFING THE MEDIA**

Information should be verified for accuracy prior to being released to the media.

Acronyms and power plant terminology should not be used during media briefings.

Media briefings should be held at set times whenever possible. If they are to be delayed, a courtesy announcement should be provided to the media.

EIM and PIOs should attend the briefing for the entire duration. If they must be excused, an explanation should be given to limit media confusion.

If press releases are passed out in a briefing, they should be addressed and explained to the media.

Conferring amongst the EIM, ECO, and PIOs while in front of the media is distracting and should be avoided.

Know what your main messages are before the briefing and emphasize their importance during your delivery.

Stick to the agenda; maintain control.

Try to begin and end the interview with a summary of your main message.

Try not to use phrases such as **That's a good question**, or **I'm glad you asked that** unless you need a few seconds to compose an answer.

Simplify technical explanations; try to relay the message in laymans terms.

Don't refer to the competition, even when asked. Speak only for your company or organization. If the story concerns an interview about your industry at-large, be certain you are the proper person to comment.

If you must own up to unfavorable facts, acknowledge them in a gracious, fair manner, such as, **Certainly there are instances of unethical behavior in every profession**, then quickly move on.

Do respond in a sincere, direct and cooperative manner.

Keep it short and keep it simple.

Listen carefully to the question; if it's negative, answer in the positive whenever possible.

**ENCLOSURE 5  
(Page 2 of 2)****GUIDELINES ON BRIEFING THE MEDIA**

Back up a claim you make with facts and stick to the facts.

Speak from the viewpoint of the public's interest.

When necessary, say **I don't know, but I'll try to find out for you.**

Be aware that everything you say is subject to being quoted – before, during and after your interview or news conference.

Do not speculate; never guess; avoid what if questions.

Don't talk off the record, there is no such thing.

Don't argue, get angry, ramble, joke or act superior.

Don't use the term **no comment**, offer a brief explanation, if appropriate, such as: **that hasn't been determined, or we don't disclose that kind of information (i.e., customer or employee specific information).**

Don't try to fool a reporter or indicate you know something you don't; be honest.

Avoid calling a reporter by name in a news conference that's being taped; it may keep competing broadcasters from using your answer.

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# Emergency Operations Facility (EOF) Activation and Operation

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5/31/00

## ATTACHMENT 1

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### FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM

1. A. ☐ THIS IS A DRILL B. ☐ THIS IS AN ACTUAL EVENT
2. A. Time/Date contact made \_\_\_\_\_ B. Reported by: (Name/Title) \_\_\_\_\_  
C. Message Number \_\_\_\_\_ D. Reported from: ☐ Control Room ☐ TSC ☐ EOF
3. SITE A. ☐ CRISTAL RIVER UNIT 3 B. ☐ ST LUCIE UNIT 1 D. ☐ TURKEY POINT UNIT 3  
C. ☐ ST LUCIE UNIT 2 E. ☐ TURKEY POINT UNIT 4
4. ACCIDENT CLASSIFICATION A. ☐ NOTIFICATION OF UNUSUAL EVENT C. ☐ SITE AREA EMERGENCY  
B. ☐ ALERT D. ☐ GENERAL EMERGENCY

5. CURRENT EMERGENCY DECLARATION: TIME: \_\_\_\_\_ DATE \_\_\_\_\_6. REASON FOR EMERGENCY DECLARATION \_\_\_\_\_7. ADDITIONAL INFORMATION OR UPDATE: \_\_\_\_\_8. INJURIES REQUIRING OFFSITE SUPPORT: A. ☐ No ☐ Yes ☐ Unknown B. Contaminated: ☐ No ☐ Yes ☐ Unknown

9. WEATHER DATA: A. Wind direction from \_\_\_\_\_ degrees.  
B. Downwind Sectors Affected (minimum of 3): \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

10. RELEASE STATUS: A. ☐ No Release (Go to Item 12) C. ☐ A Release occurred, but stopped  
B. ☐ A Release is occurring

11. OFFSITE RELEASE SIGNIFICANCE CATEGORY (at the Site Boundary)

- A. ☐ Information not available at this time  
B. ☐ Release within normal operating limits ( $\leq 2.8$  ci/sec noble gas,  $\leq 3.7$  E-4 ci/sec iodine)  
C. ☐ Non-Significant Fraction of PAG Range (release is  $>$  normal limits and  $< 500$  mR TEDE and 1000 mR CDE)  
D. ☐ PAG Range ( $\geq 500$  mR TEDE or  $\geq 1000$  mR CDE)

#### 12. UTILITY RECOMMENDED PROTECTIVE ACTIONS

- A. ☐ NONE B. ☐ SHELTER ZONES/AREAS: \_\_\_\_\_ (Not for FPL Use)  
EVACUATE ZONES/AREA: \_\_\_\_\_ (Not for FPL Use)  
OR C. ☐

MILES	NO ACTION	EVACUATE SECTORS	SHELTER SECTORS
0 - 2	_____	_____	_____
2 - 5	_____	_____	_____
5 - 10	_____	_____	_____

13. HAS EVENT BEEN TERMINATED?: A. ☐ NO B. ☐ YES Time \_\_\_\_\_ Date \_\_\_\_\_14. SUPPLEMENTAL FORM IS ATTACHED?: A. ☐ NO B. ☐ YES

EC or RM Approval Signature \_\_\_\_\_ Time \_\_\_\_\_ Date \_\_\_\_\_

15. MESSAGE RECEIVED BY: Name \_\_\_\_\_ Time \_\_\_\_\_ Date \_\_\_\_\_

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**ATTACHMENT 1**  
 (Page 2 of 3)  
**FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM**  
**SUPPLEMENTAL DATA SHEET**

The following supplemental data is to be completed after the TSC or EOF is declared operational at Alert of higher Supplement to Message Number \_\_\_\_\_

**PLANT CONDITIONS INFORMATION**

**CRITICAL SAFETY FUNCTIONS**

- A. REACTOR SHUTDOWN? ☐ YES ☐ NO  
 B. CORE ADEQUATELY COOLED? ☐ YES ☐ NO  
 C. ADEQUATE EMERGENCY POWER AVAILABLE (DIESELS) ☐ YES ☐ NO

**FISSION PRODUCT BARRIER STATUS:** (Check one condition for each barrier)

BARRIER	✓	INTACT	✓	CHALLENGED	✓	LOST	✓	REGAINED
FUEL CLADDING		No indication of clad damage		Clad is intact but losing subcooling, water level, etc.		Clad has failed, indicated by high temps., high containment rad, etc.		Cooling restored, no further degradation expected
PRI. REACTOR COOLANT SYSTEM		Leakage is within normal charging or makeup pump capacity		Leakage is within safety injection capacity		Leakage exceeds safety injection capacity		Leakage reduced to within injection capacity (system repaired)
CONTAINMENT		No evidence of containment leakage or tube rupture release is only through condenser		No leakage but containment pressure is at or above safety system actuation points		Evidence of containment leakage (known release path or rad surveys)		Repair Efforts have isolated leak or containment pressure has reduced to stop leakage

COMPLETED BY: \_\_\_\_\_ TIME: \_\_\_\_\_ DATE: \_\_\_\_\_

**RADIOLOGICAL DOSE ASSESSMENT DATA**

1. **RELEASE STATUS:** A. ☐ No Release (no further data required) C. ☐ A Release occurred, but stopped  
 B. ☐ A Release is occurring

2. **RELEASE RATE:**

- A. ☐ NOBLE GASES: \_\_\_\_\_ Curies per second ☐ Measured ☐ Default  
 B. ☐ IODINES: \_\_\_\_\_ Curies per second ☐ Measured ☐ Default

3. **TYPE OF RELEASE:**

- A. ☐ AIRBORNE: Time/Date started: \_\_\_\_\_ B. ☐ LIQUID Time/Date started: \_\_\_\_\_  
 Time/Date stopped: \_\_\_\_\_ Time/Date stopped: \_\_\_\_\_

4. **PROJECTED OFFSITE DOSE RATE:**

DISTANCE	THYROID DOSE RATE (CDE)	TOTAL DOSE RATE (TEDE)
1 Mile (Site Boundary)	A. _____ mrem/hr	B. _____ mrem/hr
2 Miles	C. _____ mrem/hr	D. _____ mrem/hr
5 Miles	E. _____ mrem/hr	F. _____ mrem/hr
10 Miles	G. _____ mrem/hr	H. _____ mrem/hr

5. **WEATHER DATA (used for the above data):**

- A. Wind Direction from \_\_\_\_\_ degrees.  
 B. Wind Speed \_\_\_\_\_ MPH  
 C. Stability Class \_\_\_\_\_

COMPLETED BY: \_\_\_\_\_ TIME: \_\_\_\_\_ DATE: \_\_\_\_\_

Emergency Coordinator or Recovery Manager Approval \_\_\_\_\_

# Emergency Operations Facility (EOF) Activation and Operation

## ATTACHMENT 1

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## FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM

### METEOROLOGICAL WORKSHEET

#### SECTOR REFERENCE:

The chart below can be used to determine sectors affected by a radiological release, through comparison with wind direction from the meteorological recorders in the Control Room.

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

#### SECTOR INFORMATION:

WIND SECTOR	WIND FROM	DEGREES	WIND TOWARD	SECTORS AFFECTED
[A]	N	348-11	S	HJK
[B]	NNE	11-33	SSW	JKL
[C]	NE	33-56	SW	KLM
[D]	ENE	56-78	WSW	LMN
[E]	E	78-101	W	MNP
[F]	ESE	101-123	WNW	NPQ
[G]	SE	123-146	NW	PQR
[H]	SSE	146-168	NNW	QRA
[J]	S	168-191	N	RAB
[K]	SSW	191-213	NNE	ABC
[L]	SW	213-236	NE	BCD
[M]	WSW	236-258	ENE	CDE
[N]	W	258-281	E	DEF
[P]	WNW	281-303	ESE	EFG
[Q]	NW	303-326	SE	FGH
[R]	NNW	326-348	SSE	GHJ

#### STABILITY CLASSIFICATION REFERENCE:

The below chart can be used to determine atmospheric stability classification for notification to the State of Florida. Primary method is from  $\Delta T$  via the South Dade (60 meter) tower. Backup method is from Sigma Theta via the Ten Meter Tower. If neither meteorological tower is available, Stability Classification shall be determined using data from National Weather Service (See 0-EPIP-20126, Off-site Dose Calculations).

#### CLASSIFICATION OF ATMOSPHERIC STABILITY:

Stability Classification	Pasquill Categories	Primary Delta T (°F)	Backup Sigma Theta Range (Degrees)
Extremely unstable	A	$\Delta T \leq -1.7$	$ST \geq 22.5$
Moderately unstable	B	$-1.7 < \Delta T \leq -1.5$	$22.5 > ST \geq 17.5$
Slightly unstable	C	$-1.5 < \Delta T \leq -1.4$	$17.5 > ST \geq 12.5$
Neutral	D	$-1.4 < \Delta T \leq -0.5$	$12.5 > ST \geq 7.5$
Slightly stable	E	$-0.5 < \Delta T \leq +1.4$	$7.5 > ST \geq 3.8$
Moderately stable	F	$+1.4 < \Delta T \leq +3.6$	$3.8 > ST \geq 2.1$
Extremely stable	G	$+3.6 < \Delta T$	$2.1 > ST$

Meteorological information needed to fill out the Florida Nuclear Plant Emergency Notification Form is available from the Dose Calculation Worksheet (0-EPIP-20126). The Worksheet shall be filled out by Chemistry and given to the Emergency Coordinator.

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**ATTACHMENT 2**  
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**EVENT NOTIFICATION WORKSHEET**

NRC FORM 361		US NUCLEAR REGULATORY COMMISSION OPERATIONS CENTER	
<b>EVENT NOTIFICATION WORKSHEET</b>			
NOTIFICATION TIME	FACILITY OR ORGANIZATION	UNIT	CALLER'S NAME
		CALL BACK: ENS _____ OR ( ) _____	
EVENT TIME & ZONE	EVENT DATE / /	1-Hr Non-Emergency 10 CFR 50.72 (b) (1)	(v) Lost Offsite Comms
		(vi) Fire	(vi) Toxic Gas
POWER MODE BEFORE	POWER MODE AFTER	(i) (A) TS Required S/D	(vi) Rad Release
		(ii) (B) TS Deviation	(vi) Other Hampering Safe Op
		(iii) Degraded Condition	
		(ii) (A) Unanalyzed Condition	4-Hr Non-Emergency 10 CFR 50.72 (b) (2)
Event Classifications		(ii) (B) Outside Design Basis	
		(ii) (C) Not Covered by OPs/EOPs	(i) Degrade While S/D
GENERAL EMERGENCY		(iii) Earthquake	(ii) RPS Actuation (Scram)
SITE AREA EMERGENCY		(iii) Flood	(ii) ESF Actuation
ALERT		(iii) Hurricane	(iii) (A) Safe S/D Capability
UNUSUAL EVENT		(iii) Ice/Hail	(iii) (B) Rhr Capability
50.72 NON-EMERGENCY		(iii) Lightning	(iii) (C) Control of Rad Release
PHYSICAL SECURITY (73.71)		(iii) Tornado	(iii) (D) Accident Mitigation
TRANSPORTATION		(iii) Other Natural Phenomenon	(iv) (A) Air Release >2X App B
20.403 MATERIAL/EXPOSURE		(iv) ECCS Discharge to RCS	(iv) (B) Liq Release >2X App B
OTHER		(v) Lost ENS	(v) Offsite Medical
		(v) Lost Emerg. Assessment	(vi) Offsite Notification

**DESCRIPTION**

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

NOTIFICATIONS NRC RESIDENT	YES	NO	WILL BE	ANYTHING UNUSUAL OR NOT UNDERSTOOD?		YES (Explain above)	NO
STATE(s)				DID ALL SYSTEMS FUNCTION AS REQUIRED?		YES	NO (Explain above)
LOCAL							
OTHER GOV AGENCIES				MODE OF OPERATION UNTIL CORRECTED	ESTIMATE FOR RESTART DATE:		ADDITION INFO ON BACK?

F-443/1:2

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**EVENT NOTIFICATION WORKSHEET**

NRC FORM 361

ADDITIONAL INFORMATION

USNRC OPERATIONS CENTER

RADIOLOGICAL RELEASES CHECK OR FILL IN APPLICABLE ITEMS (specific details/explanations should be covered in event description)							
<input type="checkbox"/> LIQUID RELEASE	<input type="checkbox"/> GASEOUS RELEASE	<input type="checkbox"/> UNPLANNED RELEASE	<input type="checkbox"/> PLANNED RELEASE	<input type="checkbox"/> ONGOING	<input type="checkbox"/> TERMINATED		
<input type="checkbox"/> MONITORED	<input type="checkbox"/> UNMONITORED	<input type="checkbox"/> OFFSITE RELEASE	<input type="checkbox"/> T.S. EXCEEDED	<input type="checkbox"/> RM ALARMS	<input type="checkbox"/> AREAS EVACUATED		
<input type="checkbox"/> PERSONNEL EXPOSED OR CONTAMINATED		<input type="checkbox"/> OFFSITE PROTECTIVE ACTIONS RECOMMENDED			<input type="checkbox"/> *State release path in description		

	Release Rate (Ci/sec)	% T.S. LIMIT	HOO GUIDE	Total Activity (Ci)	% T.S. LIMIT	HOO GUIDE
Noble Gas			0.1 Ci/sec			1000 Ci
Iodine			10 uCi/sec			0.01 Ci
Particulate			1 uCi/sec			1 mCi
Liquid (excluding tritium & dissolved noble gases)			10 uCi/min			0.1Ci
Liquid (tritium)			0.2 Ci/min			5 Ci
Total Activity						

	PLANT STACK	CONDENSER/AIR EJECTOR	MAIN STEAM LINE	SG BLOWDOWN	OTHER
RAD MONITOR READINGS:					
ALARM SETPOINTS:					
% T.S. LIMIT (If applicable)					

RCS OR SG TUBE LEAKS CHECK OR FILL IN APPLICABLE ITEMS: (specific details/explanations should be covered in event description)			
LOCATION OF THE LEAK (e.g., SG #, valve, pipe, etc):			
LEAK RATE:	UNITS: gpm/gpd	T.S. Limits:	SUDDEN OR LONG TERM DEVELOPMENT:
LEAK START DATE:	TIME:	COOLANT ACTIVITY & UNITS: PRIMARY -	SECONDARY -
LIST OF SAFETY RELATED EQUIPMENT NOT OPERATIONAL:			
EVENT DESCRIPTION (Continued from front)			

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\*MR/bsc/ev/ev

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**ATTACHMENT 3**  
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**INJURED PERSON REPORT**

Name:		Employer: <input type="checkbox"/> FPL <input type="checkbox"/> OTHER (LIST COMPANY NAME)		JOB DESCRIPTION:
TIME INJURED:	TIME REPORTED:	NATURE OF INJURY:		LOCATION WHERE INJURY OCCURRED:
IS THE VICTIM CONTAMINATED?  <input type="checkbox"/> NO <input type="checkbox"/> YES	WHAT BODY PARTS CONTAMINATED?	Level of Contamination	AREA ____ LEVEL ____ DPM ____ CPM ____ AREA ____ LEVEL ____ DPM ____ CPM ____ AREA ____ LEVEL ____ DPM ____ CPM ____	
TRANSPORTED TO HOSPITAL?  <input type="checkbox"/> NO <input type="checkbox"/> YES	HOW TRANSPORTED?	NAME OF HOSPITAL OR OTHER LOCATION		
ACTIVITY AT THE TIME INJURY OCCURRED		CURRENT MEDICAL CONDITION		
MISC. INFO				

Name:		Employer: <input type="checkbox"/> FPL <input type="checkbox"/> OTHER (LIST COMPANY NAME)		JOB DESCRIPTION:
TIME INJURED:	TIME REPORTED:	NATURE OF INJURY:		LOCATION WHERE INJURY OCCURRED:
IS THE VICTIM CONTAMINATED?  <input type="checkbox"/> NO <input type="checkbox"/> YES	WHAT BODY PARTS CONTAMINATED?	Level of Contamination	AREA ____ LEVEL ____ DPM ____ CPM ____ AREA ____ LEVEL ____ DPM ____ CPM ____ AREA ____ LEVEL ____ DPM ____ CPM ____	
TRANSPORTED TO HOSPITAL?  <input type="checkbox"/> NO <input type="checkbox"/> YES	HOW TRANSPORTED?	NAME OF HOSPITAL OR OTHER LOCATION		
ACTIVITY AT THE TIME INJURY OCCURRED		CURRENT MEDICAL CONDITION		
MISC. INFO				



**Emergency Operations Facility (EOF)  
Activation and Operation**

**ATTACHMENT 4**

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**EMERGENCY PLAN SECURITY CHECKLIST**

ITEM	EVENT/ACTION	START TIME	FINISH TIME
1	TYPE OF EVENT	N/A	N/A
A	LOCAL AREA EVACUATION		
B	CONTROL ROOM EVALUATION		
	S/O POSTED AT D840	N/A	
C	UNUSUAL EVENT		N/A
D	ALERT – PATROL DISPATCHED FOR OCA NOTIFICATION		N/A
	SCHOOL/TRAINING/WELLNESS COMPLEX NOTIFIED	N/A	
	BOAT RAMP SIGNS POSTED/PERSONNEL NOTIFIED	N/A	
	RED BARN/SCOUT CAMP NOTIFIED	N/A	
	SWITCHYARD PERSONNEL NOTIFIED	N/A	
	PERSONNEL IN TRAILERS SOUTH OF CRF NOTIFIED	N/A	
	PERSONNEL IN LAYDOWN AREA NORTH OF CRF NOTIFIED	N/A	
	FOSSIL CONTROL ROOM NOTIFIED	N/A	
	OCA NOTIFICATIONS COMPLETE	N/A	
E	SITE AREA EMERGENCY		N/A
F	GENERAL EMERGENCY		N/A
2	DISPATCH SUPERVISOR AND S/O TO OPEN TSC		N/A
A.	TSC POSTED	N/A	
3	DISPATCH 2 S/Os TO OPEN OSC		N/A
A	OSC POSTED	N/A	
4	TSC SECURITY SUPERVISOR POSTED IN TSC	N/A	

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**ATTACHMENT 4**  
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**EMERGENCY PLAN SECURITY CHECKLIST**

ITEM	EVENT/ACTION	START TIME	FINISH TIME
5	EVACUATION ROUTE _____ PRIMARY _____ ALTERNATE	N/A	N/A
A	PRIMARY EVACUATION ROUTE	N/A	N/A
	DISPATCH S/O TO PRIMARY OSAA		N/A
	DISPATCH S/O TO FPL PROPERTY LINE		N/A
	S/O POSTED AT PRIMARY OSAA	N/A	
	S/O POSTED AT FPL PROPERTY LINE	N/A	
	S/O AT PROPERTY LINE RELOCATED TO LLEA CONTROL POINT	N/A	
B	ALTERNATE EVACUATION ROUTE	N/A	N/A
	DISPATCH S/Os TO TOWER GATE AND ALTERNATE OSAA		N/A
	S/O POSTED AT TOWER GATE	N/A	
	S/O POSTED AT ALTERNATE OSAA	N/A	
	S/O POSTED AT CARD SOUND ROAD	N/A	
6	PA ACCESS RESTRICTED TO ERD PERSONNEL		N/A
7	VISITORS DIRECTED TO LEAVE PA		N/A
A	VISITORS ACCOUNTED FOR	N/A	
8	CONTRACTOR PERSONNEL DIRECTED TO LEAVE PA		N/A
A	CONTRACTOR PERSONNEL ACCOUNTED FOR	N/A	
9	PA EVACUATION DIRECTED		N/A
A	ACCOUNTABILITY STARTED		N/A
B	INITIAL ACCOUNTABILITY COMPLETED	N/A	
C	ALL PERSONNEL ACCOUNTED FOR	N/A	
D	RCA SWEEPS STARTED		N/A
E	RCA SWEEPS COMPLETED	N/A	
F	PA SWEEPS STARTED		N/A
G	PA SWEEPS COMPLETED	N/A	

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**Emergency Operations Facility (EOF)  
Activation and Operation**

**ATTACHMENT 4**

(Page 3 of 3)

**EMERGENCY PLAN SECURITY CHECKLIST**

ITEM	EVENT/ACTION	START TIME	FINISH TIME
10	SAFEGUARDS	N/A	N/A
A	MODIFIED		N/A
B	SUSPENDED		N/A
C	SAS CLOSED	N/A	
D	CAS CLOSED	N/A	
E	N.E.B CLOSED	N/A	
11	EVACUATION OF SECURITY PERSONNEL	N/A	N/A
A	NON-ESSENTIAL SECURITY EVACUATION STARTED		N/A
B	NON-ESSENTIAL SECURITY EVACUATION COMPLETED	N/A	
12	SECURITY ACCESS BUILDINGS	N/A	N/A
A	MTG CLOSED	N/A	
B	WTG CLOSED	N/A	
13	SECURITY EQUIPMENT	N/A	N/A
A	WEAPONS SECURED	N/A	
B	KEYS SECURED	N/A	
14	RESTORATION OF SAFEGUARDS BEGUN		N/A
15	RESTORATION OF SAFEGUARDS COMPLETE	N/A	

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**ATTACHMENT 5**  
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**ENGINEERING TECHNICAL RESPONSE WORKSHEET**

TO: \_\_\_\_\_

<b>SUBJECT</b>	
<b>DATE &amp; TIME RECEIVED</b>	<b>REQUESTER</b>
<b>REQUEST</b>	
<b>RESPONSE</b>	
<div><div>BY</div><div>CHECKED</div><div>EMERGENCY TECHNICAL MANAGER</div><div>DATE &amp; TIME:</div></div>	

**0-EPIP-1212**

## Emergency Operations Facility (EOF) Activation and Operation

**ATTACHMENT 6**  
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## EOF ACCESS LOG

[illegible]

**\*\*\* If you have consumed alcohol within the past 5 hours, ensure Emergency Security Manager is promptly informed of your status.**



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## ATTACHMENT 7

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### FIELD MONITORING AND PLUME PROJECTION RESULTS

Guidance for Completing the FIELD MONITORING AND PLUME PROJECTION RESULTS FORM

**SAMPLE TIME** – Time of sample acquisition

**SURVEY TEAM** – FPL teams, team named by TSC

**SAMPLE SITE DATA** – Location of sampling activities

**REFERENCE LOCATION** - Used only if at a pre identified location; those locations on the survey maps

**MILES FROM PLANT** – Best approximation from map; plant to survey location

**DIRECTION FROM PLANT** – Compass degrees from plant to survey location

**DOWNWIND DIRECTION** – The indicated, at plant, downwind direction at the time of sampling

(the difference between direction from plant and downwind direction yields a relative to centerline distance)

#### **FIELD SURVEY RESULTS**

- Plume (DDE) mR/Hr - Team will report the Deep Dose Equivalent (DDE) meter reading
- I uCi/cc Team reports Iodine – 131 concentration
- Thyroid (DCE) mRem/Hr – Team reports thyroid dose rate
- CL – Enter Y if the team is on the centerline, i.e., the direction from plant = downwind direction

#### **PLUME PROJECITONS** –

Determine the printout to be used for comparison as follows:

- a. Divide the field Monitoring Team MILES FROM PLANT by the average wind speed, answer is hours
- b. Subtract the hours from the actual SAMPLE TIME, this estimates the release time of day for the portion of the plume being sampled.
- c. Select the latest printout that has a release Observation time before the estimated time of day
- d. From that printout, Enter the plume DDE, Thyroid CDE and printout #
- e. Enter the average wind speed used above for WIND M.P.H.

**RATIO** – i. IF the team sampled centerline at 1, 2, 5, 7.5, 10, 15, 20, 25 miles OR at a predesignated sampling location, THEN the ratios are the Team Values divided by the Printout Values.

ii. IF the team is off centerline (e.g., left or right) THEN a centerline value may be estimated using Relationship 2. (1609 meters = 1 mile)

iii. IF the team is not at one of the distances noted in i, above, THEN a value at one of those distances may be estimated using Relationship 1.

# Emergency Operations Facility (EOF) Activation and Operation

## ATTACHMENT 7

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### FIELD MONITORING AND PLUME PROJECTION RESULTS

#### 1. Action

#### ACTION RESPONSES – NOTIFY HPM

- Field measured results are >2 times or < 1/2 projected
- $\geq 0.5$  mR/hr DDE or Thy. (CDE) at 1 mile site boundary
- >50 mR/hr DDE or >250 mRem/hr Thy. (CDE) for release >1/2 hr., or
- >500 mR/hr DDE or >2500 mRem/hr Thy. (CDE) for release >2 min.
- >1 R/hr DDE or >5 Rem/hr Thy. (CDE) at 1 mile site boundary

#### Possible Classification

Alert

Site Area Emergency

General Emergency

(SOURCE – RADIOLOGICAL EMERGENCY PLAN)

Allowable Field Team Dose – 3 R DDE, 25 Rem Thyroid (CDE)

(Source – 0-EPIP-20129)

Dose Conversion – Field Measured I-131  $\mu\text{Ci/cc} \times 1.72 \text{ E9} =$ Estimated Thy Dose rate mRem/hr.  
(SOURCE – 0-EPIP-20129,  
Enclosure 4)

#### Relationship #1

#### Estimating Dose from Field Samples

#### Relationship 2

Dose at different distance from Plant

Dose at distance from CenterLine

Estimated Dose = Given Dose

$$\left[ \frac{\text{Given Dose Distance}}{\text{Estimated Dose Distance}} \right]$$

Where:  $\frac{X}{\text{Stability Class}}$

2.0	A or B
1.5	C or D
1.0	E or F

(SOURCE – EPA 520/1-75-001-a Rev 10/91)

Off CenterLine  
Dose Value

$$= \text{CenterLine Dose Value} e^{-\frac{1}{2} \left( \frac{y}{\sigma_y} \right)^2}$$

Where: y = distance off CenterLine (m)  
 $\sigma_y$  = value from table in  
 Source reference (m)  
 Graph on next page

(SOURCE – Meteorology and Atomic Energy 1968, D.G. Slade)

Sector Distances	
Sectors = 22.5°	
1 mile = 5280 ft. or 1609 meters	
Circle Radius (Miles)	Sector Arc Length (feet / meters)
0.5	1037/316
1	2073/632
2	4146/1264
3	6219/1896
4	8292/2528
5	10365/3160



## ATTACHMENT 7

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## FIELD MONITORING AND PLUME PROJECTION RESULTS

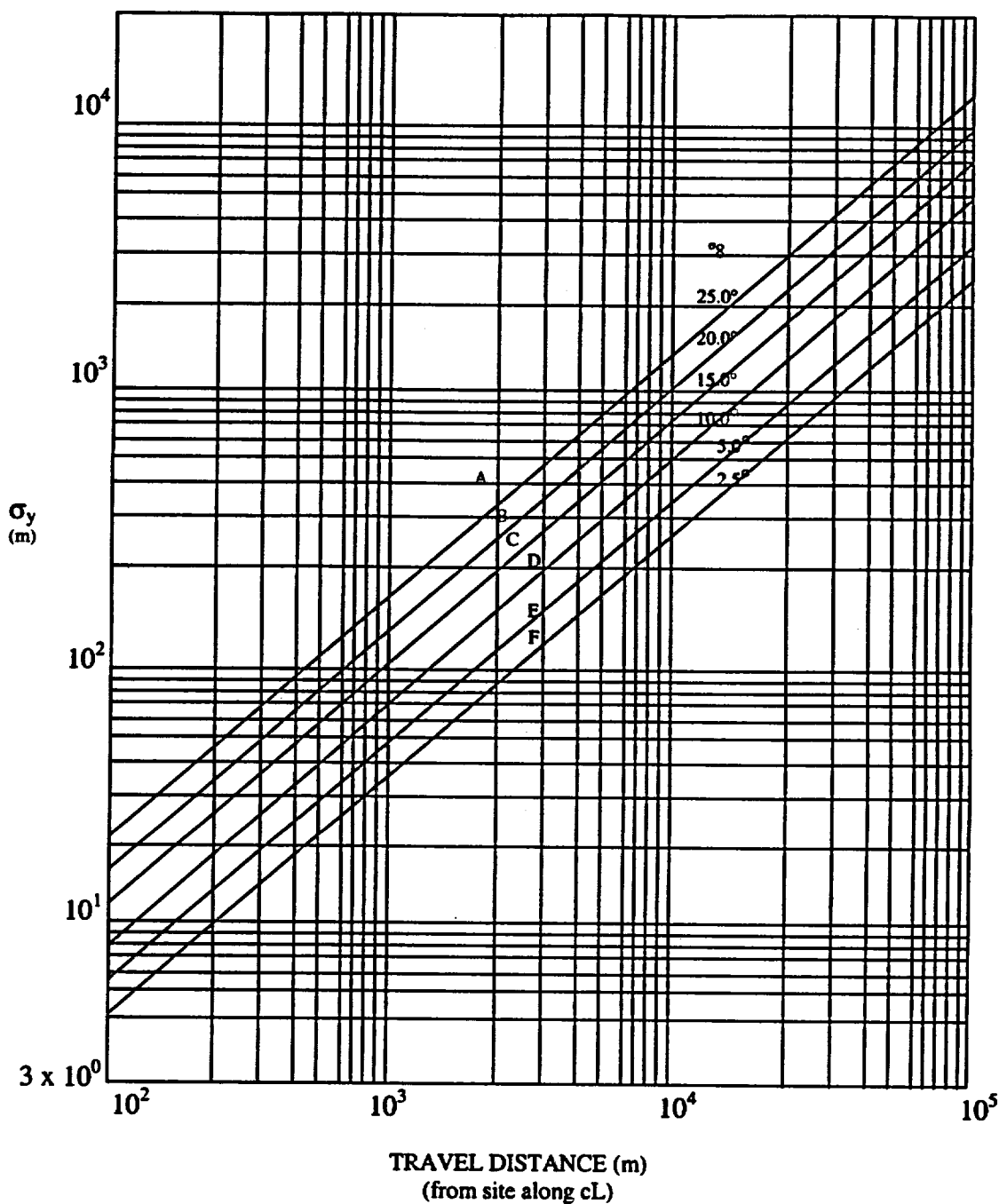
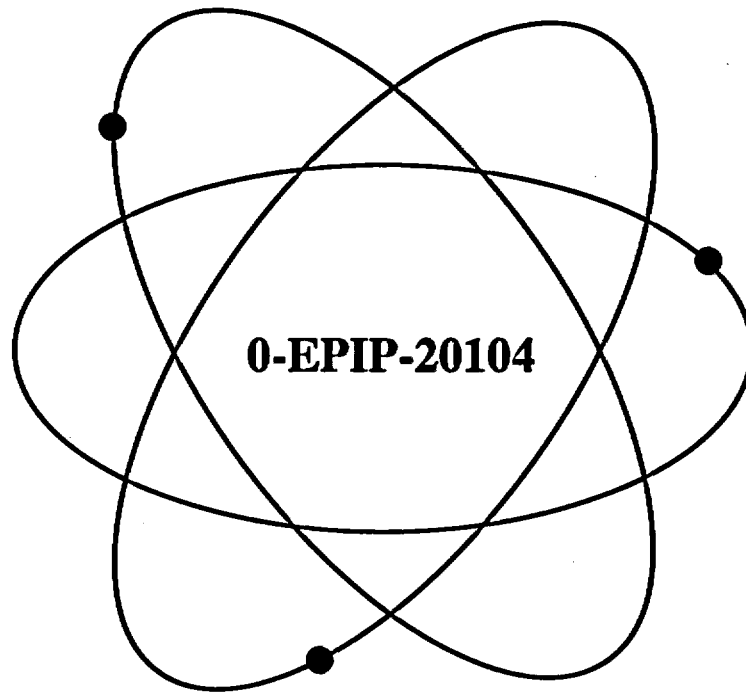


Fig. A.2 – Standard deviation of the lateral concentration distribution,  $\sigma_y$ , as a function of travel distance from a continuous source. A – F are Pasquill's diffusion categories.

FINAL PAGE

# Florida Power & Light Company

## Turkey Point Nuclear Plant



Title:

### Emergency Response Organization Notifications/Staff Augmentation

#### Safety Related Procedure

<i>Responsible Department:</i>	Emergency Preparedness
<i>Revision Approval Date:</i>	5/31/00
<i>Periodic Review Due:</i>	7/30/01
<i>Implementation Date:</i>	6/1/00

RTSs 96-0772P, 00-0248P

**LIST OF EFFECTIVE PAGES**

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**1.0 PURPOSE**

- 1.1 This procedure provides instruction for activation of the Emergency Response Organization and implements the Turkey Point Plant Radiological Emergency Plan.
- 1.2 When the Emergency Plan is activated, certain notifications should be made. This procedure outlines the call structure to be used to ensure these notifications occur.

**NOTE**

*Although the Emergency Coordinator is responsible for specific notifications, his notifications are not outlined in this procedure. Emergency Coordinator notifications are outlined in 0-EPIP-20101, Duties of the Emergency Coordinator.*

**2.0 REFERENCES/RECORDS REQUIRED/COMMITMENT DOCUMENTS****2.1 References****2.1.1 Plant Procedures**

1. 0-ADM-018, Fitness for Duty
2. 0-ADM-115, Notification of Plant Events
3. 0-EPIP-1102, Duties of the Recovery Manager
4. 0-EPIP-1211, Duties of the Corporate Communication Emergency Response Organization
5. 0-EPIP-1212, Emergency Operations Facility (EOF) Activation and Operation
6. 0-EPIP-20101, Duties of the Emergency Coordinator
7. EPIP-20132, Technical Support Center (TSC), Activation and Operation
8. EPIP-20133, Operations Support Center (OSC), Activation and Operation

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**2.1.2 Miscellaneous Documents (PC/M, Correspondence etc.)**

1. Turkey Point Plant Radiological Emergency Plan
2. Emergency Response Directory
3. Security Force Instruction 6307, Emergency Evacuation

**2.2 Records Required**

2.2.1 None

**2.3 Commitment Documents**

2.3.1 None

**3.0 RESPONSIBILITIES**

**NOTE**

*Fitness for Duty Responsibilities for Emergency Responders are identified in 0-ADM-018, Fitness for Duty.*

- 3.1 The following individuals are responsible for initiating notifications to personnel specified in the Emergency Response Directory outlined in this procedure.

- 3.1.1 The Duty Call Supervisor
- 3.1.2 Shift Technical Advisor
- 3.1.3 TSC Security Supervisor (Security Shift Specialist)
- 3.1.4 Assistant to the Duty Call Supervisor

- 3.2 Emergency Response Organization members who report to the Technical Support Center, Operations Support Center, or the Emergency Operations Facility are responsible for the following:

**NOTE**

*Emergency Response personnel should have available, at all times, the relevant sections of the Emergency Response Directory, their callout lists, or call out card for their augmentation responsibilities.*

- 3.2.1 Making notifications, if applicable, to personnel specified in the Emergency Response Directory as outlined in this procedure.
- 3.2.2 Assembling promptly at the appropriate Emergency Response Facility.

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3.2.3 Notifying the Emergency Preparedness Coordinator when a change pertinent to information appearing in the Emergency Response Directory occurs.

3.2.4 Maintaining a copy of pertinent sections of the Emergency Response Directory or their call out card available during off-normal hours.

3.3 The Emergency Preparedness Coordinator is responsible for quarterly verification and updating of the Emergency Response Directory.

#### 4.0 DEFINITIONS

4.1 Emergency Response Directory (ERD) - The directory containing names and phone numbers of Emergency Response Organization personnel.

4.2 On Call Roster - Weekly schedule of plant management who are on call. This schedule is issued in the Plan-of-the-Day on Fridays.

4.3 Normal Business Hours - Hours between 7:30 a.m. and 4:00 p.m., Monday through Friday, excluding holidays.

4.4 Off-Normal Business Hours - Hours between 4:00 p.m. and 7:30 a.m., Monday through Friday, all day during holidays, Saturdays, and Sundays.

4.5 Call Out Card - Emergency Response Call out Card containing the necessary information for responders to make their required call outs for activating the Emergency Response Facilities. These cards are usually a reduced version of the notification pages in the Emergency Response Directory. A date should appear at the top of each card for verification of the most current information as listed in the current quarterly revision of the Emergency Response Directory.

5.0 PROCEDURENOTE

*Defines activities to be performed if the emergency plan is being activated and the Emergency Response Facilities ARE NOT being activated.*

- *The Shift Technical Advisor, Duty Call Supervisor, and Assistant to the Duty Call Supervisor have responsibilities defined in both Subsections 5.1 and 5.2.*
- *Phone numbers necessary to complete the following call outs can be located in the Emergency Response Directory or on the Plant On Call Roster.*
- *During Off-Normal Business Hours, notifications should be made by contacting the responder using home phone number first, and if no response is received, the responder's pager number should be used.*
- *During Normal Business Hours, the primary means for notification of the Emergency Response Organization for activation of the Emergency Response Facilities is by Plant Page. If requested by an Emergency Response Organization Supervisor to make notifications, the responder's office phone number should be called first, and if no response is received, the responder's pager number should be used.*

5.1 If the Emergency Plan is being activated and the Emergency Response Facilities are not being activated (Unusual Event), the following steps should be performed:

5.1.1 The Shift Technical Advisor or designee should perform the following:

NOTE

*If long distance access is needed, an FPL ITN Number can be obtained from the NPS.*

1. Obtain a copy of the Florida Nuclear Plant Emergency Notification Form (Form similar to Attachment 1) completed by the Emergency Coordinator or designee.



5.1.1 (Cont'd)**CAUTION**

*The Duty Call Supervisor is required to make additional notifications to Plant Management as required by 0-EPIP-20104, therefore, it is necessary for him to be notified as quickly as possible.*

**NOTE**

*Duty Call Supervisor phone numbers are listed in the ERD in Section 1, Immediate Notifications.*

2. If the emergency has occurred during normal business hours, contact to a Duty Call Supervisor should be made by calling his office phone number first.
3. If the emergency has occurred during off-normal business hours, contact to a Duty Call Supervisor should be made by calling his home phone number first.
4. If no answer, use beeper.
5. If no answer, use cellular phone number, if listed.
6. If no answer, notify the Emergency Coordinator to acquire additional support to make the Duty Call Supervisor notifications.
7. If the Duty Call Supervisor answers, relay applicable information from the Florida Nuclear Plant Emergency Notification Form (form similar to Attachment 1).
  - a. Instruct the Duty Call Supervisor to make notifications to personnel using this procedure as listed in the Duty Call Supervisor Call List No. 2 in the Emergency Response Directory.
8. When requested by the Emergency Coordinator or designee, notify the Duty Call Supervisor of changes in plant conditions or upon termination of the event.

## 5.1.2 The Duty Call Supervisor should perform the following:

**CAUTION**

*If a Plant Event has occurred, not requiring Emergency Classification the Duty Call Supervisor shall use 0-ADM-115, NOTIFICATION OF PLANT EVENTS, for making notifications.*

1. Fill out the Florida Nuclear Plant Emergency Notification Form (form similar to Attachment 1) from the information given by the Shift Technical Advisor or designee.

**NOTE**

*The Duty Call Supervisor should make notifications for each position by contacting responders, in the order given in the Emergency Response Directory or for On Call positions, the person designated on the On Call Roster may be contacted.*

2. If the emergency has occurred during normal business hours, contact to one responder for each position listed in the Emergency Response Directory Duty Call Supervisor Call List No. 2 should be made by completing the following steps:
  - a. Call the office number of the first responder.
  - b. If the responder answers, relay applicable information from the Florida Nuclear Plant Emergency Notification Form.
  - c. If no answer, go to the next responder.
    - (1) Call the office number of the next responder.
  - d. Repeat the preceding Substeps 5.1.2.2.b and 5.1.2.2.c until one responder for the position has been notified or all office numbers have been attempted.
  - e. If the position has not been notified using office numbers, call the beeper of each responder.
    - (1) When a responder for the position calls back, relay applicable information from the Florida Nuclear Plant Emergency Notification Form.

**5.1.2.2 (Cont'd)**

- f. Go to the next call out position.
    - (1) Repeat the preceding Substeps 5.1.2.2.a through 5.1.2.2.d until one responder for the position has been notified or all office numbers have been attempted.
  - g. If the position has not been notified using office numbers, call the beeper of each responder.
    - (1) When a responder for the position calls back, relay applicable information from the Florida Nuclear Plant Emergency Notification Form.
  - h. Go to the next call out position.
    - (1) Repeat the preceding Substeps 5.1.2.2.a through 5.1.2.2.f, until all positions listed in the Duty Call Supervisor Call List No. 2 and Nuclear Division Duty Officer Call List No. 1 have been notified.
  - i. Ensure that the Emergency Coordinator is informed of any positions that could not be notified.
3. If the emergency has occurred during off-normal business hours, contact to one responder for each position listed in the Emergency Response Directory Duty Call Supervisor Call List No. 2 should be made by completing the following steps:
- a. Call the home number of the first responder.
  - b. If the responder answers, relay applicable information from the Florida Nuclear Plant Emergency Notification Form.
  - c. If no answer, go to the next responder.
    - (1) Call the home number of the next responder.
  - d. Repeat the preceding Substeps 5.1.2.3.b and 5.1.2.3.c until one responder for the position has been notified or all home numbers have been attempted.
  - e. If the position has not been notified using home phone numbers, call the beeper of each responder.
    - (1) When a responder for the position calls back, relay applicable information from the Florida Nuclear Plant Emergency Notification Form.

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**5.1.2.3 (Cont'd)**

f. Go to the next call out position.

(1) Repeat the preceding Substeps 5.1.2.3.a through 5.1.2.3.f, until all positions listed in the Duty Call Supervisor Call List No. 2 have been notified.

g. Ensure that the Emergency Coordinator is informed of any positions that could not be notified.

**NOTE**

*If the Technical Support Center has been activated, and if directed by the Emergency Coordinator, it may not be necessary to perform the following steps.*

4. Remain accessible by telephone for further updates unless directed otherwise.
5. When notified that the emergency condition has changed or no longer exists, contact previously notified personnel as listed in the Emergency Response Directory.

**NOTES**

*Subsection 5.2 defines activities to be performed if the Emergency Plan is being activated and the Emergency Response Facilities ARE being activated.*

- The Shift Technical Advisor, Duty Call Supervisor, and Assistant to the Duty Call Supervisor have responsibilities defined in both Subsections 5.1 and 5.2.*
- Phone numbers necessary to complete the following call outs can be located in the Emergency Response Directory or on the Plant On Call Roster.*
- During Off-Normal Business Hours, notifications should be made by contacting the responder using home phone No. first, and if no response is received, the responder's pager No. should be used.*
- During Normal Business Hours, the primary means for notification of the Emergency Response Organization for activation of the Emergency Response Facilities is by Plant Page. If requested by an Emergency Response Organization Supervisor to make notifications, the responder's office phone No. should be called first, and if no response is received, the responder's pager No. should be used.*

- 5.2 If the Emergency Plan is being activated and the Emergency Response Facilities are being activated (Alert or higher classification or at the discretion of the Emergency Coordinator), the following steps should be performed:

**NOTE**

*The STA is to make these notifications unless these actions will interfere with his accident assessment responsibilities. If the STA is not available to make these notifications, the Emergency Coordinator is responsible for ensuring these notifications are delegated to another on shift individual.*

- 5.2.1 The Shift Technical Advisor or designee should contact the positions as listed in the Emergency Response Directory Shift Technical Advisor Call List by completing the following steps:

1. Obtain a copy of the Florida Nuclear Plant Emergency Notification Form (form similar to Attachment 1) completed by Emergency Coordinator or designee.

5.2.1 (Cont'd)**NOTE**

*The Duty Call Supervisor is required to make additional notifications to Plant Management as required by this procedure; therefore, it is necessary for him to be notified as quickly as possible.*

**2. Contact the Duty Call Supervisor by performing the following:****NOTE**

*The Duty Call Supervisor is listed on the Plant On Call Roster. If a roster is not available, any Duty Call Supervisor, as listed in the Emergency Response Directory, Section 1, Immediate Notification, can be contacted.*

- a. If the emergency has occurred during normal business hours, use office number first, then beeper, if necessary.
  - b. If the emergency has occurred during off normal business hours, use home number first, then beeper, if necessary.
  - c. Relay Florida Nuclear Plant Emergency Notification Form information to the Duty Call Supervisor.
  - d. If requested by the Emergency Coordinator or designee, notify the Duty Call Supervisor of changes in plant conditions or upon termination of the event.
- 3. Contact the TSC Security Supervisor (Security Shift Specialist).**
- a. Instruct the TSC Security Supervisor to perform responsibilities using this procedure.

**5.2.2 The Duty Call Supervisor should perform the following:**

1. Fill out the Florida Nuclear Plant Emergency Notification Form (form similar to Attachment 1) from the information given by the Shift Technical Advisor of designee.

**NOTE**

*It is the responsibility of the Duty Call Supervisor to understand the event as classified and whether the ERFs will be activated (EC discretion at Unusual Event, required for Alert and higher).*

2. Verify that an Emergency Plan Activation has been declared (Unusual Event, Alert, Site Area Emergency, General Emergency) and that the Emergency Response Facilities are being activated.

**NOTE**

*The Duty Call Supervisor should make notifications for each position by contacting responders, in the order given in the Emergency Response Directory or for On Call positions, the On Call Roster may be used.*

3. If the emergency has occurred during normal business hours, notifications to the NRC Resident Inspector and the Nuclear Division Duty Officer are the only requirements unless otherwise requested by the Emergency Coordinator or designee or the TSC Supervisor.
4. If the emergency has occurred during off normal business hours, contact to one responder for each position listed in the Emergency Response Directory Duty Call Supervisor Call List No. 2 and No. 3 should be made by completing the following steps:
  - a. Call the home number of the first responder.

5.2.2.4 (Cont'd)**NOTE**

*Responders are responsible for informing callers of their fitness for duty.*

- b. If the responder answers, relay a message similar to the following:
    - (1) This is/is not a drill, a/an (state emergency classification) has been declared at Turkey Point Nuclear. The Emergency Response Facilities are being activated. You are requested to fill the position of (state position) and make your required notifications as listed in the Emergency Response directory or Call Out Card, then report to your designated facility. This is/is not a drill.
  - c. If no answer, go to the next responder.
    - (1) Call the home number of the next responder.
  - d. Repeat the preceding Substeps 5.2.2.4.b and 5.2.2.4.c until one responder for the position has been notified or all home numbers have been attempted.
  - e. If the position has not been notified by using home phone number, call the beeper of each responder.
    - (1) When one responder for that position calls back, relay a message similar to the preceding message.
    - (2) If other responders for that position call back, inform them that the position has been filled and that they are not needed at this time.
  - f. Go to the next call out position.
    - (1) Repeat the preceding Substeps 5.2.2.4.a through 5.2.2.4.f until all positions listed in the Duty Call Supervisor Call List No. 2 and No. 3 have been notified.
5. Ensure that the TSC Supervisor, (DCS), is informed of any positions that could not be filled.



5.2.2 (Cont'd)**NOTE**

*If the Technical Support Center has been activated, and if directed by the Emergency Coordinator, it may not be necessary to perform Substeps 5.2.2.6 or 5.2.2.7.*

6. Remain accessible by telephone for further updates unless directed otherwise.
7. When notified that the emergency condition has changed or no longer exists, contact previously notified personnel listed in the Emergency Response Directory.

5.2.3 The Assistant to the Duty Call Supervisor or designee should perform the following:

1. If the emergency has occurred during normal business hours, no action is required unless requested by the Emergency Coordinator or designee or the TSC Supervisor.
2. If the emergency has occurred during off normal business hours, perform the following steps:
  - a. Contact to one responder for all positions listed in the Emergency Response Directory, Assistant to the Duty Call Supervisor Call List should be made by completing the following steps:
    - (1) Call the home number of the first responder.
    - (2) If the responder answers, relay a message similar to the following:
      - (a) This is/is not a drill, a/an (state emergency classification) has been declared at Turkey Point Nuclear. The Emergency Response Facilities are being activated. You are requested to fill the position of (state position) and make your required notifications as listed in the Emergency Response Directory or Call Out Card, then report to your designated facility. This is/is not a drill.
    - (3) If no answer, go to the next responder.
      - (a) Call the home number of the next responder.

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**5.2.3.2.a (Cont'd)**

- (4) Repeat the preceding Substeps 5.2.3.2.a(2) and 5.2.3.2.a(3) until one responder for the position has been notified or all home numbers have been attempted.
  - (5) If the position has not been notified by using home phone number, call the beeper of each responder.
    - (a) When one responder for that position calls back, relay a message similar to the preceding message.
    - (b) If other responders for that position call back, inform them that the position has been filled and that they are not needed at this time.
  - (6) Go to the next call out position.
    - (a) Repeat the preceding Substeps 5.2.3.2.a(1) through 5.2.3.2.a(6) until all positions listed in the Assistant to the Duty Call Supervisor Call List have been notified.
  3. Ensure that the TSC Supervisor, (DCS) are informed of any positions that could not be filled.
- 5.2.4 The TSC Security Supervisor (Security Shift Specialist) should perform the following:**
1. Send 1 Security Officer to the Technical Support Center with the TSC Key.
    - a. Instruct the Officer to perform his duties as outlined in SFI 6307.
  2. Send 1 Security Officer to the Operations Support Center with a set of keys for all vital areas and access gates.
    - a. Instruct the Officer to perform his duties as outlined in SFI 6307.
  3. Report to the Technical Support Center and perform the duties of the TSC Security Supervisor as described in 0-EPIP-20132, Technical Support Center (TSC) Activation and Operation.

**5.2.5 All emergency responders should perform the following:**

1. If an Emergency Classification of Alert or higher is declared or if the Emergency Coordinator uses discretion for activation, all emergency responders shall immediately report to their designated Emergency Response Facility (ERF).
  - a. Upon arrival at the ERF, responders should perform their duties as outlined in the appropriate procedures:
    - (1) 0-EPIP-1102, Duties of the Recovery Manager
    - (2) 0-EPIP-1211, Duties of the Corporate Communication Emergency Response Organization
    - (3) 0-EPIP-1212, Emergency Operations Facility (EOF) Activation and Operation
    - (4) 0-EPIP-20101, Duties of the Emergency Coordinator
    - (5) 0-EPIP-20132, Technical Support Center (TSC) Activation and Operation
    - (6) 0-EPIP-20133, Operations Support Center (OSC) Activation and Operation
2. If the Emergency has occurred during off normal business hours, the following steps should be performed:
  - a. Upon receiving notification to activate the ERFs and if you are responsible for further notifications, contact one responder for each position listed in the appropriate call list in the Emergency Response Directory.
    - (1) Call the home number of the first responder.

5.2.5.2.a (Cont'd)**NOTE**

*Responders are responsible for informing callers of their fitness for duty. Refer to 0-ADM-018, Fitness for Duty: Call-out of Personnel, For Cause Testing, and Reportability, for required FFD Activities if another qualified responder is not available.*

- (2) If the responder answers, relay a message similar to the following:
  - (a) This is/is not a drill, a/an (state emergency classification) has been declared at Turkey Point Nuclear. The Emergency Response Facilities are being activated. You are requested to fill the position of (state position) and make your required notifications as listed in the Emergency Response directory or Call Out Card, then report to your designated facility. This is/is not a drill.
- (3) If no answer, go to the next responder.
  - (a) Call the home number of the next responder.
- (4) Repeat the preceding Substeps 5.2.5.2.a.(2) and 5.2.5.2.a.(3) until one responder for the position has been notified or all home numbers have been attempted.
- b. If the position has not been notified by using home phone number, call the beeper of each responder.
  - (1) When one responder for that position calls back, relay a message similar to the following message:
    - (a) This is/is not a drill, a/an (state emergency classification) has been declared at Turkey Point Nuclear. The Emergency Response Facilities are being activated. You are requested to fill the position of (state position) and make your required notifications as listed in the Emergency Response directory or Call Out Card, then report to your designated facility. This is/is not a drill.
  - (2) If other responders for that position call back, inform them that the position has been filled and that they are not needed at this time.

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### 5.2.5 (Cont'd)

3. After each position has been filled or if all numbers have been tried and the position is not filled, report to the designated ERF.
  - a. If a position could not be filled, re-attempt to fill the position after arrival at the designated ERF.
4. If a position could not be filled, ensure that the appropriate supervisor (TSC Supervisor in the TSC, OSC Supervisor in the OSC or Recovery Manager in the EOF) is notified of the unfilled position.

### **5.3 Emergency Response Directory (ERD)**

- 5.3.1 The Emergency Preparedness Coordinator shall ensure the ERD is updated at least once per calendar quarter.
- 5.3.2 All emergency responders should notify the Emergency Preparedness Coordinator or designee when changes to their phone numbers or other pertinent information listed in the ERD has occurred.
- 5.3.3 All emergency responders who have notification requirements should maintain a copy of pertinent sections of the Emergency Response Directory or their call out card at their disposal during off normal business hours.
- 5.3.4 Supervisors responsible for the filling of positions should notify the Emergency Preparedness Coordinator or designee when emergency response personnel changes are necessary.

**END OF TEXT**

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ATTACHMENT 1  
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## FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM

1. A. ☐ THIS IS A DRILL B. ☐ THIS IS AN ACTUAL EVENT
2. A. Time/Date contact made \_\_\_\_\_ B. Reported by: (Name/Title) \_\_\_\_\_
- C. Message Number \_\_\_\_\_ D. Reported from: ☐ Control Room ☐ TSC ☐ EOF
3. SITE A. ☐ CRISTAL RIVER UNIT 3 B. ☐ ST LUCIE UNIT 1 D. ☐ TURKEY POINT UNIT 3
- C. ☐ ST LUCIE UNIT 2 E. ☐ TURKEY POINT UNIT 4

4. ACCIDENT CLASSIFICATION A. ☐ NOTIFICATION OF UNUSUAL EVENT C. ☐ SITE AREA EMERGENCY
- B. ☐ ALERT D. ☐ GENERAL EMERGENCY

5. CURRENT EMERGENCY DECLARATION: TIME: \_\_\_\_\_ DATE \_\_\_\_\_
6. REASON FOR EMERGENCY DECLARATION \_\_\_\_\_

7. ADDITIONAL INFORMATION OR UPDATE: \_\_\_\_\_

8. INJURIES REQUIRING OFFSITE SUPPORT: A. ☐ No ☐ Yes ☐ Unknown B. Contaminated: ☐ No ☐ Yes ☐ Unknown

9. WEATHER DATA: A. Wind direction from \_\_\_\_\_ degrees.
- B. Downwind Sectors Affected (minimum of 3): \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

10. RELEASE STATUS: A. ☐ No Release (Go to Item 12) C. ☐ A Release occurred, but stopped
- B. ☐ A Release is occurring

11. OFFSITE RELEASE SIGNIFICANCE CATEGORY (at the Site Boundary)
- A. ☐ Information not available at this time
- B. ☐ Release within normal operating limits ( $\leq 2.8$  ci/sec noble gas,  $\leq 3.7$  E-4 ci/sec iodine)
- C. ☐ Non-Significant Fraction of PAG Range (release is  $>$  normal limits and  $< 500$  mR TEDE and  $1000$  mR CDE)
- D. ☐ PAG Range ( $\geq 500$  mR TEDE or  $\geq 1000$  mR CDE)

12. UTILITY RECOMMENDED PROTECTIVE ACTIONSA. ☐ NONEB. ☐ SHELTER ZONES/AREAS: \_\_\_\_\_ (Not for FPL Use)

EVACUATE ZONES/AREA: \_\_\_\_\_ (Not for FPL Use)

OR C. ☐MILES NO ACTIONEVACUATE SECTORSSHELTER SECTORS

0 - 2

2 - 5

5 - 10

13. HAS EVENT BEEN TERMINATED?:

A. ☐ NOB. ☐ YES

Time \_\_\_\_\_ Date \_\_\_\_\_

14. SUPPLEMENTAL FORM IS ATTACHED?: A. ☐ NO B. ☐ YES

EC or RM Approval Signature \_\_\_\_\_ Time \_\_\_\_\_ Date \_\_\_\_\_

15. MESSAGE RECEIVED BY: Name \_\_\_\_\_ Time \_\_\_\_\_ Date \_\_\_\_\_

## ATTACHMENT 1

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FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM  
SUPPLEMENTAL DATA SHEET

The following supplemental data is to be completed after the TSC or EOF is declared operational at Alert of higher Supplement to Message Number \_\_\_\_\_

PLANT CONDITIONS INFORMATIONCRITICAL SAFETY FUNCTIONS

A. REACTOR SHUTDOWN?

☐ YES ☐ NO

B. CORE ADEQUATELY COOLED?

☐ YES ☐ NO

C. ADEQUATE EMERGENCY POWER AVAILABLE (DIESELS)

☐ YES ☐ NO

FISSION PRODUCT BARRIER STATUS: (Check one condition for each barrier)

BARRIER	✓	INTACT	✓	CHALLENGED	✓	LOST	✓	REGAINED
FUEL CLADDING		No indication of clad damage		Clad is intact but losing subcooling, water level, etc.		Clad has failed, indicated by high temps., high containment rad, etc		Cooling restored, no further degradation expected
PR. REACTOR COOLANT SYSTEM		Leakage is within normal charging or makeup pump capacity		Leakage is within safety injection capacity		Leakage exceeds safety injection capacity		Leakage reduced to within injection capacity (system repaired)
CONTAINMENT		No evidence of containment leakage or tube rupture release is only through condenser		No leakage but containment pressure is at or above safety system actuation points		Evidence of containment leakage (known release path or rad surveys)		Repair Efforts have isolated leak or containment pressure has reduced to stop leakage

COMPLETED BY: \_\_\_\_\_ TIME: \_\_\_\_\_ DATE: \_\_\_\_\_

RADIOLOGICAL DOSE ASSESSMENT DATA

1. RELEASE STATUS: A. ☐ No Release (no further data required) C. ☐ A Release occurred, but stopped  
B. ☐ A Release is occurring

2. RELEASE RATE:A. ☐ NOBLE GASES: \_\_\_\_\_ Curies per second ☐ Measured ☐ DefaultB. ☐ IODINES: \_\_\_\_\_ Curies per second ☐ Measured ☐ Default3. TYPE OF RELEASE:

A. ☐ AIRBORNE: Time/Date started: \_\_\_\_\_ B. ☐ LIQUID Time/Date started: \_\_\_\_\_  
Time/Date stopped: \_\_\_\_\_ Time/Date stopped: \_\_\_\_\_

4. PROJECTED OFFSITE DOSE RATE:DISTANCETHYROID DOSE RATE (CDE)TOTAL DOSE RATE (TEDE)

1 Mile (Site Boundary)

A. \_\_\_\_\_ mrem/hr

B. \_\_\_\_\_ mrem/hr

2 Miles

C. \_\_\_\_\_ mrem/hr

D. \_\_\_\_\_ mrem/hr

5 Miles

E. \_\_\_\_\_ mrem/hr

F. \_\_\_\_\_ mrem/hr

10 Miles

G. \_\_\_\_\_ mrem/hr

H. \_\_\_\_\_ mrem/hr

5. WEATHER DATA (used for the above data):

A. Wind Direction from \_\_\_\_\_ degrees.

B. Wind Speed \_\_\_\_\_ MPH

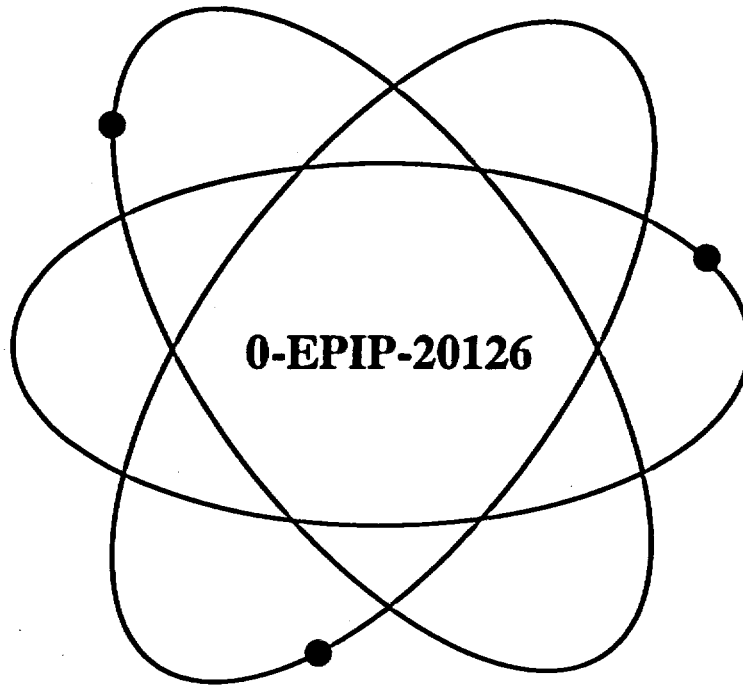
C. Stability Class \_\_\_\_\_

COMPLETED BY: \_\_\_\_\_ TIME: \_\_\_\_\_ DATE: \_\_\_\_\_

Emergency Coordinator or Recovery Manager Approval \_\_\_\_\_

# Florida Power & Light Company

## Turkey Point Nuclear Plant



Title:

### Off-site Dose Calculations

#### Safety Related Procedure

<i>Responsible Department:</i>	Emergency Preparedness
<i>Revision Approval Date:</i>	6/1/00
<i>Periodic Review Due:</i>	5/1/03
<i>Implementation Date:</i>	6/8/00

RTSs 97-1404P, 99-0286, 00-0212



**LIST OF EFFECTIVE PAGES**

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20	06/01/00	51	06/01/00
21	06/01/00	52	06/01/00
22	06/01/00	53	06/01/00
23	06/01/00	54	06/01/00
24	06/01/00	55	06/01/00
25	06/01/00	56	06/01/00
26	06/01/00	57	06/01/00
27	06/01/00	58	06/01/00
28	06/01/00	59	06/01/00
29	06/01/00	60	06/01/00
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## **1.0 PURPOSE**

- 1.1** This procedure provides a method for estimating Emergency Off-site Doses to support Protective Action Recommendation (PAR) formulation.
- 1.2** This procedure provides a method for reporting Reportable Quantities (RQ) of radionuclides releases pursuant to 40 CFR 302 and 40 CFR 355.

## **2.0 REFERENCES/RECORDS REQUIRED/COMMITMENT DOCUMENTS**

### **2.1 References**

#### **2.1.1 Plant Procedures**

- 1.** 0-ADM-115, Notification of Plant Events
- 2.** 0-EPIP-20101, Duties of Emergency Coordinator
- 3.** 0-NCAP-104, Primary to Secondary Leak Detection

#### **2.1.2 Regulatory Guides**

- 1.** 10 CFR 20, Appendix B
- 2.** 40 CFR 302, Reportable Quantity Adjustment - Radionuclides
- 3.** 40 CFR 355, Emergency Planning and Notification

#### **2.1.3 Miscellaneous Documents (i.e., PC/Ms, Correspondence)**

- 1.** Turkey Point Plant Radiological Emergency Plan
- 2.** Turkey Point Units 3 and 4 Off-site Dose Calculation Manual
  - a.** Section 2.0, Table 2.2-1
  - b.** Section 3.0, Tables 3.1-1, 3.2-1
- 3.** Class A, Emergency Off-site Dose Calculation System User's Manual
- 4.** EPA-520, Rev 6/79

2.1.3 (Cont'd)

5. NRC Response Technical Manual, RTM-91
6. JPE-PTPO-85-74, Containment Break Calculations
7. JPE-LR-87-033, Steam Generator Tube Rupture - FSAR Model - PTN 3 and 4
8. PTN-ENG-SENS-97-088, Revision 1, Engineering Evaluation Related to Pre-planned Alternative Monitoring for the Containment High Range Radiation Monitors
9. PSL-BFJM-93-032, Revision 0, Method to Estimate Post-Accident Containment Release

2.2 Records Required

- 2.2.1 Records of meteorological conditions used to calculate dose rates and doses shall be kept on the attached worksheets or forms containing similar information.
- 2.2.2 A copy of the completed Dose Calculation Worksheet, or computer generated forms conveying similar information, shall be given to the Emergency Coordinator, and shall contain:
  1. Meteorological conditions (wind speed, wind direction, and affected sectors).
  2. Emergency Off-site Doses at 1, 2, 5 and 10 miles, including sectors affected.
  3. Default values or actual measurements that were used for dose estimates.
- 2.2.3 Completed copies of the below listed item(s) constitute Quality Assurance Records and shall be transmitted to QA Records for retention in accordance with Quality Assurance Records Program requirements:
  1. A form similar to Attachment 2 or computer generated forms conveying similar information.

2.3 Commitment Documents

- 2.3.1 None

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### **3.0    RESPONSIBILITIES**

- 3.1    The Emergency Coordinator is responsible for directing the performance of emergency off-site dose calculations during an emergency which involves a release of radioactivity to the environment.**
- 3.2    The HP/Chemistry Department representatives are responsible for performing the following:**
  - 3.2.1    Calculations in accordance with this procedure.**
  - 3.2.2    Ensuring that the Emergency Coordinator receives the most current dose calculations as soon as possible after request of emergency off-site dose information.**
  - 3.2.3    Performance of Reportable Quantity (RQ) calculations, as necessary.**
  - 3.2.4    Notifying the Chemistry Supervisor or designee as soon as practical for verification of release data. Notification to the Emergency Coordinator will not be delayed because of notification process with the Chemistry Supervisor.**
  - 3.2.5    Ensuring that the initial EOF Responders are updated with copies (e.g., facsimile) of dose calculations. The dose calculation summary sheet, if using the computer method, contains the minimum information needed by the initial EOF Responders. Attachment 2 contains the minimum information needed if using the manual calculation method.**

#### 4.0 DEFINITIONS

- 4.1 Core Overheating/Melting - Severe core damage, beyond gap failure, typically indicated by:

4.1.1 The core being uncovered, by coolant, for 30 minutes or more.

4.1.2 CHRRM reading  $1.3 \text{ E}+4 \text{ R/hr}$  or more.

**NOTE**

*The 700°F core exit thermocouple value used in other procedures signifies the starting point for potential core melting. The value used in this procedure signifies that the core is in an overheat condition, melting is imminent and the release may include particulates, (e.g., Bariums, Cesiums, Strontiums, etc.).*

- 4.1.3 Valid Core Exit Thermocouple reading(s) in excess of 1700°F.
- 4.2 Deep Dose Equivalent (DDE) - Applies to External Whole Body Exposure and is the dose equivalent at a tissue depth of 1cm. The computerized version of this procedure also estimates a plume immersion dose (DDE), which is a best estimate of an in-plume survey meter reading.
- 4.3 Emergency Off-site Doses - The Total Dose (TEDE) and Thyroid Dose (CDE), calculated as either rates of exposure to the dose commitment or the total dose committed from the release.
- 4.4 Release - During any declared emergency, any effluent monitor increase of approximately ten times, or one decade above pre-transient values, or Health Physics detected airborne radioactivity levels in excess of 25 percent DAC outside of plant buildings due to failure of equipment directly associated with the declared plant emergency.
- 4.5 Thyroid Dose (CDE) - The Committed Dose Equivalent to an adult thyroid from inhaling the radioiodine in the plume.
- 4.6 Total Dose (TEDE) - The Total Effective Dose Equivalent, the sum of the doses to the whole body from immersion in a plume containing radioactive material, the CEDE from inhaling the plume, and an assumed four days of exposure to plume deposition (fallout).

## 5.0 PROCEDURE

### CAUTIONS

- *Doses determined in this procedure will be given to the Emergency Coordinator, who will evaluate doses and plant conditions with criteria listed in 0-EPIP-20101, Duties of Emergency Coordinator.*
- *Dose Projections should be made on a best estimate basis by projecting the duration of the release, if possible. If no reasonable duration of release can be projected, the default value listed in Part D of Attachment 3 should be used.*
- *Releases greater than Off-site Dose Calculation Manual limits or Reportable Quantities shall require reports or notifications to the NRC even if no off-site action is required. Ensure reports are performed as required by 0-ADM-115, Notification of Plant Events.*
- *The following steps apply to the use of this procedure for the performance of a manual calculation. As soon as possible, the computerized Emergency Off-site Dose Calculation Method should be used for dose calculations. The instructions for using the computer program, which parallels this procedure, are in Enclosure 2.*

## 5.1 Discussion

- 5.1.1 During any emergency involving release of radioactivity to the environment, the Emergency Plan requires Emergency Off-site Doses be calculated for areas up to 10 miles from the plant. This information will be used in making Protective Action Recommendations and will be an input to the State of Florida Division of Emergency Management (DEM) in determining what off-site protective actions should be taken. When the Technical Support Center or the Emergency Operations Facility are operational, the function of dose calculation will be shifted to one of these locations.



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- 5.1.2 The Chemistry Department Representative should use the computer dose calculation model in the Technical Support Center, when time and manpower resources are available, along with this procedure for estimating Emergency Offsite Doses when releases of radioactivity occur during an emergency. The computer model closely parallels this procedure. The instructions for using the computer program, which parallels this procedure, are in Enclosure 2. Additional instructions for use of the computer are located in the Emergency Off-site Dose Calculation User's Manual located in the Health Physics/Chemistry Area of the TSC and the EOF.
- 5.1.3 ERDADS may be used to display effluent monitor and meteorological data required by this procedure and the computerized Emergency Off-site Dose Calculation Method.
- 5.1.4 The various meteorological data processing methods deal with sea-breeze. Sea-breeze is a coastal phenomena where an artificial ceiling may exist. Our methods assume that this ceiling acts as a limit to vertical mixing; that is, the plume is below the ceiling. This leads to a slightly higher concentration for a given stability class. The computer program will state Sea-breeze: Yes when the procedure states No impact. The computer model is stating that sea-breeze may exist although there is no impact; the ceiling is too high to affect the vertical mixing within 10 miles of the plant.
- 5.1.5 The various release rate determination methods in the procedure and computer program require asking the Emergency Coordinator if the core is overheating or melting (typical indications listed in the definitions section). The purpose of the question is to determine:
1. if there is a core damage sequence in progress, or
  2. if the damage has gone beyond gap failure?
- IF there is overheating or melting in progress, THEN the off-site TEDE dose multiplier is increased to 4.4 to reflect the additional dose from the presence of particulates in the plume.**
- 5.1.6 Pursuant to 40 CFR 302, Radionuclides are designated as a hazardous substance, which if released, other than federally permitted, (within Technical Specification limits) in a quantity equal to or greater than the revised Reportable Quantities (RQ) Table, requires notification to various Agencies.

## 5.2 Meteorological Conditions Determination

- 5.2.1 Complete applicable worksheets in Attachment 1. The three methods listed are in preferential order. Use the next method, in order to supplement any missing data. Indicate the method used on the selected worksheet in Attachment 2.

### CAUTIONS

- *All Met Tower Data for Wind Speed, Wind Direction, Delta Temperature, and Sigma-Theta are averaged over 15 minutes by the instrumentation for display on the strip charts and ERDADS.*
- *Meteorological Wind Speed, Wind Direction, Delta Temperature, and Sigma-Theta values should vary with time, i.e., Chart Recorders in the Control Room should not be straight lining. Investigate data that is unchanging.*

1. Plant Meteorology Towers - Data from the primary and backup met towers is evaluated by following the instructions of Attachment 1, Part A. Use primary Met Tower data, with backup Met Tower data being used to supplement any primary Met Tower data.

### NOTE

*Meteorological data from the NWS is not required to be averaged.*

2. National Weather Service (NWS) - Meteorological observations taken at the NWS are evaluated by following the instructions on Attachment 1, Part B.
3. Default Values - Daytime and nighttime default values are listed in Attachment 1, Part C.

## 5.3 Dose Calculation Worksheets

- 5.3.1 Select the appropriate Dose Calculation Worksheet from Attachment 2. The worksheets, numbered 1 through 10, are tied to the Stability Class and Sea-breeze impact. The class and impact are noted on the first row of the worksheet.

#### 5.4 Release Rate Determination

- 5.4.1 Perform Release Rate Calculations using Worksheets in Attachments 3 through 6 as appropriate. Indicate the method used on the selected dose calculation worksheet.

##### NOTES

- Although grab sampling is the primary method, it is unlikely that results will be available in the early phases of an emergency situation. Dose assessment cannot be held up waiting grab sample results, therefore, the Effluent Monitor method should be used in the initial dose assessment. Grab Sampling should be performed as soon as possible.
- If the accident is a Loss of Coolant Accident (LOCA), a release estimate using the CHRRM Data Worksheet should be added to the release rates determined by Grab Sampling or Effluent Monitor Readings to account for the potential of unmonitored leakage, for example, through penetrations.

1. Grab Sample - Grab Sample results are evaluated by following the instructions on Attachment 3, Part A.

##### NOTES

- Effluent Monitor Data should be used when Grab Sample Data is not available or if there is insufficient time to perform Method 1, as in the early phases of an emergency situation.
- Since it will be difficult to analyze grab samples quickly, Effluent Monitor Data should be computed throughout the release and related to Grab Sample Data. This will permit a continuous release rate estimate even when grab sample data is unavailable. Iodine release rate factors may be modified if two or more grab samples indicate that the factors should be modified.

2. Effluent Monitors - Effluent Monitor readings are evaluated by following the instructions on Attachment 3, Part B. SPING-4 data should be used in preference to associated PRMS data.

5.4.1 (Cont'd)**NOTE**

*The CHRRM monitor should be used in addition to Methods 1 or 2, if a loss of coolant accident (LOCA) has occurred. For example, if the CHRRM reading is high but the plant vent monitor reading is approximately normal, this probably indicates that containment isolation is preventing a release from containment to the plant vent. However, the FSAR design leak rate from containment should still be taken into consideration, as leakage from other penetrations may not register on effluent monitors.*

3. Containment High Range Radiation Monitor (CHRRM) -CHRRM readings are evaluated by following the instructions on Attachment 3, Part C.
4. Default Values - default noble gas and iodine release rates are listed in Attachment 3, Part D, for the following accidents:
  - a. Loss of Coolant (LOCA)
  - b. Steam Generator Tube Rupture (SGTR)
  - c. Spent Fuel Handling
5. Attachment 4 provides methods to adjust or replace the LOCA default release rates based on known plant parameters. Guidance is provided for coping with containment failure releases, either rapid depressurization or estimated penetration size failure.
6. Attachment 5 provides methods to adjust the steam generator tube rupture default release rates based on known plant parameters. Guidance is also provided for estimating a release rate using survey meter readings of the Main Steam Line.
7. Attachment 6 provides a method, using factors in this procedure, to estimate a release rate from field team centerline survey meter readings.

### 5.5 Dose Rates and Projected Doses

#### NOTE

*Contact Chemistry Supervisor or designee as soon as practical to verify release data after giving a copy of the dose calculation worksheet to the Emergency Coordinator. Do not delay notifications to the Emergency Coordinator.*

- 5.5.1 Dose rates and projected doses are calculated by following the instructions on Attachment 2 selected at Subsection 5.3.

### 5.6 Computerized Emergency Off-site Dose Calculation Method

- 5.6.1 The computerized Emergency Off-site Dose Calculation Method should be used for dose calculations, (in preference to manual method). See Enclosure 2 for instructions on use of computer program.

### 5.7 Evaluating EPA Reportability

#### NOTE

*Attachment 7 contains forms to assist in this activity.*

- 5.7.1 Determine if the following condition has occurred during the Radioactive release:

#### NOTE

*A Nuclear Incident means any occurrence of bodily injury, sickness, disease, death, loss of or damage to property or loss of use of property (Off-site Evacuation) resulting from the radioactive, toxic, explosive, or other hazardous properties of source, special nuclear or byproduct material.*

1. Dose exceeds any applicable Technical Specification, or section of the Off-site Dose Calculation Manual (ODCM) **AND** the release is not exempt under a nuclear incident.

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- 5.7.2 If the condition in Substep 5.7.1.1 is not met, proceed to Subsection 5.8.
- 5.7.3 Using Radionuclide Reportable Quantities (RQs) listed in Appendix B to 40 CFR 302.4, determine if a RQ limit has been exceeded using the following criteria.
1. If the identity and quantity (in curies) of each Radionuclide in a mixture or solution is known, the ratio between the quantity released and the RQ for the Radionuclide must be determined for each Radionuclide. An RQ is reached if the sum of the ratios of the Radionuclides is equal to or greater than one. [Grab Sample method only]
  2. If the identity of each Radionuclide in a released mixture or solution is known, but the quantity of one or more of the radionuclides is unknown, a RQ is reached if the total quantity (in curies) of the mixture or solution released is equal to or greater than the lowest RQ of any Radionuclide in the mixture or solution. (Methods other than Grab Sample]
  3. If the identity of one or more of the Radionuclides in a released mixture or solution is unknown, a RQ is reached if the total quantity (in curies) released is either equal to or greater than one curie or the lowest RQ of any known individual Radionuclide in the mixture or solution, whichever is lower. [Methods other than Grab Sample]
- 5.7.4 If the release exceeds the permissible RQ limits, complete Attachment 7 accordingly.
- 5.7.5 Request the Chemistry Supervisor, or designee to notify the agencies listed in Attachment 7, of the release.
1. Provide each agency with the information required in Attachment 7.
  2. Record Date/Time and name of person contacted for each agency.
- 5.7.6 This event shall be reportable to the NRC. Ensure notifications and reports required by 0-ADM-115, Notification of Plant Events, are made.

**5.8 Continue Monitoring and Evaluation of Releases****NOTE**

*Significant wind direction changes (into new sector) or wind speed changes should be brought to the attention of the Emergency Coordinator for evaluation.*

5.8.1 The Emergency Coordinator or designee shall monitor release rates and meteorological conditions.

5.8.2 If using the Manual Method (e.g., worksheets), dose rate estimates should be updated once every hour unless:

1. Monitor reading increases by two or more times,

OR

2. Stability class changes.

If the above conditions occur, then dose calculations should be re-evaluated.

5.8.3 If using the computerized version, dose calculation forecasts (to obtain projected dose PARs) should be performed every 15 or 30 minutes, depending on the selected Advection Step.

5.8.4 Comparisons between field monitoring results and plume calculations should be performed and the results of the comparisons may be used to modify the input data for the manual or computerized dose calculations.

5.8.5 Dose Calculation activities will remain in effect until the Emergency Coordinator designates otherwise.

**END OF TEXT**

## ENCLOSURE 1

(Page 1 of 3)

## SYSTEM PARAMETERS AND CONVERSION FACTORS

The following system parameters and conversion factors are provided for use in emergency response activities. Some values may be approximated in that the values have been rounded to the nearest tenth of an order of magnitude; for example, 1.2 E+04 rather than 12,345:

System Volumes

Containment 4.4 E+10 cc

Spent Fuel Pit: 60,000 ft<sup>3</sup> (1.7 E+9 cc) Level Indicator: 650 gal/in 40 ft=312,000 gal

Accumulators 6545 gal each

RCS 70,000 gal

Steam Generators secondary 40,000 gal max

20,000 gal operating, primary 6921 gal max

Pressurizer 9725 gal max 5835 gal operating

RWST 320,000 gal

VCT 748 gal liquid and 200 ft<sup>3</sup> gas

CCW 35,000 gal

Gas Decay Tank 525 ft<sup>3</sup>

Containment Sump 629,326 gal max

10 gal/in 0-32 in

1376 gal/in 32-489 in

System Flows

Steam Dump @ 1100 psi

28 lbm/sec

Each ADV = 1.3 E+4 cc/sec

Aux Feed Flow

800 gpm each

Standby Feedwater

1350 gpm

Containment Exhaust 7000 scfm (3.304 E+6 cc/sec)

Spent Fuel Pit Exhaust 20,000 scfm (9.44 E+6 cc/sec)

RCP 88,500 gpm per pump

Air ejector

30 scfm (1.42 E+4 cc/sec)

Instrument Air Bleed

U-3 20 scfm (9440 cc/sec)

U-4 25 scfm (11800 cc/sec)

Safety Injection

375 gpm

Charging Pump

77 gpm each

Process Radiation Monitoring System

Monitor	Description	Units	Range Min - Max	Typical Routine Reading	Typical response factor (uCi/cc/cpm)
R-11	Containment Particulate	uCi/cc	1.0E-09 - 1.0E-06	1.0E-08	7.36E-12
R-12	Containment Gas	uCi/cc	1.0E-06 - 1.0E-03	1.0E-05	3.48E-08
R-14	Plant Vent Gas	cpm	0-300,000	500	5.0E-09
R-15	Air Ejector Gas	cpm	0-300,000	400	2.5E-08
R-17	CCW	cpm	0-250,000	750	2.0E-07
R-18	Liquid Rad Waste	cpm	0-250,000	5000	2.0E-08
R-19	S/G Blowdown	cpm	0-250,000	750	5.0E-09
R-20	Letdown	mr/hr	0.1 - 10,000	100	-----
DAM-1	Main Steam	uCi/cc	1.0E+00 - 1.0E+05	1.0E-01	-----
SPINGs					
Ch-5	Low Range Noble Gas	uCi/cc	1.0E-07 - 6.0E-02	5.0E-07	-----
Ch-7	Mid Range Noble Gas	uCi/cc	2.5E-02 - 4.0E+02	1.0E-04	-----
Ch-9	High Range Noble Gas	uCi/cc	1.0E+00 - 1.0E+05	1.0E-01	-----



## ENCLOSURE 1

(Page 2 of 3)

## SYSTEM PARAMETERS AND CONVERSION FACTORS

The Core:

- ≈ 8.7 E 7 Curies I-131 DEQ (assume 15% in the gap for estimating purposes)
- ≈ 3.5 E 8 Curies of 'core mix'(gross) noble gas

For LOCA

- 25% of total core iodine inventory is assumed to be available for release.
- 100% of total core gas inventory is assumed to be available for release.
- Design base leak rate is 1273 cc/sec. (0.25% per day)
- Dose at the site boundary for a LOCA is 93 Rem thyroid and 3.1 Rem whole body.

For Steam Generator Tube Rupture

- Isolation of steam generators should occur within 30 minutes.
- 102,700 lbs of RCS will leak into the steam generator.
- 55,000 lbs of steam will be discharged into the atmosphere.
- With 1% defective fuel:
- Approximately 11,196 Ci of noble gas is released
- Approximately 7.6 Ci of I-131 DEQ is released
- Dose at the site boundary <1.0 Rem thyroid, <0.1 Rem whole body

## Primary to Secondary Leak Rate

$$\text{Leak Rate (gallons/hour)} = \frac{\text{S/G } \mu\text{Ci/ml}}{\text{RCS } \mu\text{Ci/ml}} \times \frac{\text{Blowdown (lbm/hr)}}{8.33 \text{ (lbm/gallon)}}$$

$$\text{Ci/sec} = (\text{Leak Rate, gph}) * (3785 \text{ ml/gal}) * (2.78 \text{ E-04 hr/sec}) * (\text{RCS } \mu\text{Ci/ml}) * (1.0 \text{ E-6 Ci}/\mu\text{Ci})$$

Conversion Factors

$$1 \text{ gallon} = 8.33 \text{ lbm (@STP)} = 3785 \text{ ml}$$

$$1 \text{ Ft}^3 = 28317 \text{ cm}^3$$

$$1 \text{ lb/Ft}^3 \times 0.0160 = \text{g/cm}^3$$

$$1 \text{ CFM} \times 472 = \text{cc/sec}$$

$$1 \text{ lbm/hr steam} \times 0.126 = \text{ml/sec condensed liquid}$$

$$1 \text{ lb} \times 454 = \text{grams}$$

$$1 \text{ mph} \times 0.447 = \text{meter/sec}$$

$$1 \text{ meter/sec} \times 2.23 = \text{miles per hour}$$

$$1 \text{ mph} \div 1.15 = \text{knot}$$

$$\text{knot} \times 1.15 = \text{mph}$$

$$1 \text{ mile} = 1609 \text{ meters}$$

$$1 \mu\text{Ci/cc equilibrium noble gas} = 3.6 \text{ E+5 mrem/hr (DDE) immersion dose rate}$$

$$1 \mu\text{Ci/cc Iodine-131 (or mix as DEQ)} = 1.3 \text{ E+9 mrem/hr (CDE) Adult Thyroid from inhalation}$$

$$\text{X/Q (FSAR default)} = 1.5 \text{ E-4 sec/meter}^3$$

$$(\text{class F, 4.5 mph})$$

## ENCLOSURE 1

(Page 3 of 3)

## SYSTEM PARAMETERS AND CONVERSION FACTORS

Use this method IF there is not radiological data (e.g., CHRRM, containment grab sample, etc.,) AND the accident has progressed past gap failure AND the containment has undergone catastrophic failure (e.g., know there should be pressure and there is none).

Note that the following method provides DOSES, not release rates. Doses based on stability class D and 4 mph wind speed.

## REACTOR ACCIDENT CONSEQUENCE OVERVIEW

Containment Leakage

<u>Core Condition</u>	<u>Containment Status</u>	<u>Mitigating System Status (*)</u>	<u>Acute Dose (rem) 1 Hour Release @ 1 mile (**)</u>	
			<u>WB</u>	<u>THY</u>
MELT Release From Core 4500°F	Early Total Failure (< 1hr)	No Mitigation	1000+	10 <sup>5+</sup>
		Mitigated	250	10 <sup>4</sup>
	Late Total Failure (2-12hr)		250	10 <sup>4</sup>
	Major Leakage (100% / day)		10	10 <sup>3</sup>
	Design Leakage		10 <sup>-2</sup>	1
Gap Release From Core 1500°F	Early Total Failure (< 1hr)	No Mitigation	50	10 <sup>4</sup>
		Mitigated	10	10 <sup>3</sup>
	Late Total Failure (2-12hr)		5	10 <sup>3</sup>
	Major Leakage (100% / day)		10 <sup>-1</sup>	10
	Design Leakage		10 <sup>-4</sup>	10 <sup>-2</sup>

\* Sprays, filters

\*\* 1 hour cloud immersion and inhalation plus 3 hours of ground shine

BASIS: NRC's Response Technical Manual RTM-91 Vol. 1, Rev. 1, pg C-2

## ENCLOSURE 2

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## OFF-SITE DOSE CALCULATIONS - COMPUTER METHOD

1.0 Discussion

- 1.1 The computer based Class A Dose Calculation Program utilizes inputs and processes similar to the manual procedure. However, the refinements available in the computer based process allow for a wider range of input information and mathematical complexity than available in the manual method. This procedure provides guidance for using the computer based process to derive calculated off-site doses in a manner similar to that discussed for the manual calculation. Personnel having expertise in dose calculation methodology may utilize this expertise in combination with the advanced methods available through the screen driven menus to modify and refine these basic calculations.

**NOTE:** If the EOF and TSC are manned and operational, dose assessment personnel at these locations should coordinate their efforts in order to calculate the most accurate available off site dose assessment.

A. Computer Startup

1. Energize the uninterruptible power supply to the computer, to prevent data loss if a power interruption occurs.
2. Ensure that the floppy disk drive is empty.
3. IF turned off, THEN turn on the display monitor, the printer, the computer and the print buffer if attached.
4. Acquire the Class-A User's Manual while computer is starting up.
5. Following system startup, the computer may prompt the user to enter the current date. If the prompt appears, then:
  - a. Enter the current date in the displayed format and depress the ENTER key.
  - b. Enter the current time (to the nearest whole minute) in the displayed format and depress the ENTER key.
6. IF in the TSC, WHEN the computer displays the C drive prompt (C>), THEN type FPL AND depress the ENTER key to initiate the dose assessment program.

NOTES

- Log-off when computer is no longer required.
- FPL Class-A will open in a window. To expand to full screen, press Alt-Enter.

7. IF in the EOF, THEN

- a. Log into the LAN by entering your SLID and password.
- b. Double click on the icon FPL Class A to launch Off-Site Dose Calculation software.

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**ENCLOSURE 2**  
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**OFF-SITE DOSE CALCULATIONS - COMPUTER METHOD**

**B. Pre-Use QC Check**

1. IF time and manpower permit, THEN a pre-use verification check using input data from the User's Manual should be performed prior to conducting dose calculations.
2. WHEN the pre-use check is completed, THEN exit to the Main Menu, AND proceed to Step 3 of Conducting Calculations, below.

**C. Conducting Calculations**

1. WHEN the plant site menu is displayed, THEN depress the Function Key (i.e., F3-Unit 3 or F4-Unit 4) to select the affected Turkey Point Plant Unit.
2. WHEN the program asks, Is this an exercise [Y/N]?, THEN answer appropriately and depress the ENTER key.
3. WHEN the Main Menu is displayed, THEN select the F1 Function Key to start calculations.
4. WHEN prompted by the program, Warning - Start calculations will destroy previous dose values. OK [Y/N]?, THEN depress Y and the ENTER key to reinitialize the data files.

**NOTES**

1. *Thirty minute advection steps are normally used except for fuel handling accidents, for which 15 minutes advection time steps should be used.*
2. *Once advection time is selected, it should not be changed while running the program to prevent generating errors.*

5. SELECT from the screen functions displayed on the General Accident Information Worksheet to edit the type of accident, reactor trip time, release start time, and advection step in the format shown on the screen by depressing the corresponding Function Keys, F1, F2, F3, or F4 respectively, then depress ENTER after each new entry.
6. WHEN the correct accident type, reactor trip time, release start time, and the advection time step have been entered, THEN depress the F5 Function Key to accept the inputs.

## ENCLOSURE 2

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## OFF-SITE DOSE CALCULATIONS - COMPUTER METHOD

7. WHEN the Input Menu is displayed, THEN depress the F1 Function Key to bring up the Meteorological Data menu.
8. WHEN the Meteorological Data Summary Menu is displayed, SELECT the data sheet corresponding to the source of the data [i.e., Site Tower [ERDADS, chart recorder), Airport (NOAA, NWS), Default].

**CAUTION**

*When determining the atmospheric stability class, the Class A computer program will select the most recently entered Indicator (Delta-T or Sigma-Theta) of stability. Since Delta-T is the preferred indicator, ensure that Delta-T data is entered last when available.*

9. ENTER the meteorological data gathered in the format shown using the displayed Function Keys, THEN depress the ENTER key after each new entry.
10. WHEN all necessary meteorological data has been entered, THEN depress the appropriate Function Key to ACCEPT the data and go to the Meteorological Data Summary Menu.
11. Review the entered meteorological data, Depress the F5 Function Key to accept the data and then return to the Input Menu.
12. WHEN the Input Menu is displayed, THEN depress the F2 Function Key to bring up the Source Term Data menu.

**NOTE**

*If editing is required, edit the information in accordance with the displayed instructions.*

13. IF the accident type is a LOCA or SGTR, THEN respond appropriately to the question about the Core Damage Situation.
14. IF the accident type is a LOCA, THEN respond appropriately to the question about the Iodine Removal System Status.
15. WHEN the Source Term Summary Menu is displayed, THEN select the data sheet corresponding to the source of the data (i.e., Grab Sampling, Effluent Monitors, CHRRM, Default).

## ENCLOSURE 2

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## OFF-SITE DOSE CALCULATIONS - COMPUTER METHOD

16. ENTER the source term data gathered in the format shown using the displayed Function Keys, THEN depress the ENTER key after each new entry.
17. WHEN the input of source term information has been completed, THEN depress the appropriate Function Key to ACCEPT the data and return to the Source Term Summary Menu.
18. IF the entered source term data is acceptable, THEN depress the F7 function key and return to the INPUT menu, OR go to Step 15 to re-enter the data.
19. IF a final check of data accuracy is needed, THEN depress the F3 Function Key to review a summary of the meteorological and source term data. Depress the F1 Function Key to print or the F2 Function Key to exit.
20. IF the meteorological or source term data needs to be revised, THEN go to Step 7 or Step 12 above, respectively.
21. DEPRESS the F4 Function Key at the screen prompt, Proceed with calculations [Y/N]?, AND answer Y, THEN depress the ENTER key to begin calculations.
22. WHEN the Output Menu is displayed, THEN depress the F3 Function Key to select Print Reports.
23. WHEN the Printed Report Menu is displayed, THEN depress the displayed Function Keys to select the desired reports.

**CAUTION**

*Ensure that the printer and print buffer, if used, are on line and ready for use prior to proceeding with the printing task. If either device is not ready for use, the computer will exit the dose calculation program.*

24. DEPRESS lower case x to escape from the task or any other key to begin printing.
25. WHEN the Output Menu is displayed, THEN depress the F6 Function Key to select the Run Mode Menu.
26. WHEN the Run Mode Menu is displayed, THEN depress the F1 Function Key to select the Actual Calculation Mode and perform the next advection step (cumulative dose calculation) OR depress the F2 Function Key to select the Forecast Calculation Mode.

## ENCLOSURE 2

(Page 5 of 6)

## OFF-SITE DOSE CALCULATIONS - COMPUTER METHOD

NOTES

1. Forecast periods are typically 2 hours.
2. Forecasted doses assume release rates and meteorological conditions remain constant during the forecasting period chosen.
3. Consider the reasonableness of assuming constant meteorological conditions and release rates for forecasting periods exceeding 2 hours.

27. Edit the forecast period as desired using the displayed instructions.
28. WHEN the forecast period has been accepted, the Input Menu: Forecast Calculation mode will be displayed, THEN Depress the displayed Function Keys to review and/or edit the inputs as necessary.
29. When all inputs are acceptable, THEN depress the F4 Function Key to perform calculations, at the screen prompt, Proceed with calculations [Y/N]?, AND answer Y, and depress the ENTER key to begin calculations.
30. WHEN the Output Menu - Forecast Calculations mode is displayed, THEN depress the F3 Function Key to select Print Reports.
31. WHEN the Printed Report Menu is displayed, THEN depress the displayed Function Keys to select the desired reports.

CAUTION

Ensure that the printer and print buffer, if used, are on line and ready.

NOTES

1. The Emergency Coordinator should be provided with a printout of actual calculated doses, Protective Action Recommendations (PARs), and as requested, forecasted doses.
2. The Emergency Coordinator should be updated every 30 minutes during periods of actual or potential off-site release.

32. WHEN the reports have been printed, THEN return to the Run Mode Menu to update information and repeat the dose calculation process as needed due to release rate or meteorological changes.

**ENCLOSURE 2**

(Page 6 of 6)

**OFF-SITE DOSE CALCULATIONS - COMPUTER METHOD**

33. **DEPRESS** the F1 Function Key for the Actual Calculation Mode **OR** the F2 Function Key for the Forecast Calculation Mode **OR** the F3 Function Key to return to the Main Menu and quit.
34. **REVIEW** the Summary of Met and Source Data displays for all subsequent calculations even if the inputs do not change so that they can be reviewed and accepted. Also ensure that the Noble Gas Reduction Factor is reset to its proper value.



## ATTACHMENT 1

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## METEOROLOGICAL DATA WORKSHEET

## Part A - MET Tower Worksheet

1. Date and Time of observations: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ , \_\_\_\_\_
2. If using ERDADS, press the purple RAD key on the ERDADS keyboard. For a terminal outside the Control Room, to change from one unit to the other, type PUP (space) UNIT# (where # is either 3 or 4) and press EXEC (execute).
3. Copy the observations into the following table:

Desired Data	Source of the Met Data		Value	Unit
	Primary	Backup		
Wind Speed	10m Tower	So Dade (60m) Tower		mph
Wind (from) Direction	10m Tower	So Dade (60m) Tower		degrees
Primary Stability Class Indicator	So Dade (60m) Tower Delta-T, $\Delta T$	////////////////		deg F / 50 meters
Alternate Stability Class Indicator	////////////////	10m Tower Sigma-Theta		degrees
Ambient Air Temperature	ERDADS	Airport		degrees F

4. Using the Wind (from) Direction, circle the Affected Sectors in the table:

**NOTE:** If the wind direction is directly on the edge of two sectors (e.g., 11°, 33°, 56°, etc.), an additional sector should be added to the protective action recommendations. For example, if the wind direction is from 78°, then the affected sectors for PARs should be L, M, N, and P.

Wind From	Affected Sectors	Wind From	Affected Sectors	Wind From	Affected Sectors
348 - 11	H J K	123 - 146	P Q R	258 - 281	D E F
11 - 33	J K L	146 - 168	Q R A	281 - 303	E F G
33 - 56	K L M	168 - 191	R A B	303 - 326	F G H
56 - 78	L M N	191 - 213	A B C	326 - 348	G H J
78 - 101	M N P	213 - 236	B C D	<b>Note:</b> there is no sector I and O	
101 - 123	N P Q	236 - 258	C D E		

## ATTACHMENT 1

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## METEOROLOGICAL DATA WORKSHEET

## Part A - Met Tower Worksheet

5. Using the Stability Class Indicator, determine and circle the Stability Class:

If using Delta-T, $\Delta T$	If using Sigma-Theta, $\sigma\theta$	Stability Class
$\Delta T \leq -1.7$	$\sigma\theta \geq 22.5$	A
$-1.7 < \Delta T \leq -1.5$	$22.5 > \sigma\theta \geq 17.5$	B
$-1.5 < \Delta T \leq -1.4$	$17.5 > \sigma\theta \geq 12.5$	C
$-1.4 < \Delta T \leq -0.5$	$12.5 > \sigma\theta \geq 7.5$	D
$-0.5 < \Delta T \leq +1.4$	$7.5 > \sigma\theta \geq 3.8$	E
$+1.4 < \Delta T \leq +3.6$	$3.8 > \sigma\theta \geq 2.1$	F
$+3.6 < \Delta T$	$2.1 > \sigma\theta$	G

6. Evaluate Seabreeze Impact, if any of the following four is No, then Impact is NO.

CIRCLE IMPACT: YES NO

- Stability Class is A, B, or C
- Time of day is 6 a.m. to 7 p.m.
- Wind is from:  $\geq 20$  degrees to  $\leq 220$  degrees.
- Observed Air Temperature is above (i.e., warmer than) value in table (default is YES)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
66	68	73	77	80	84	86	85	84	80	74	69

7. Select the Dose Calculation Worksheet (Attachment 2).

If Stability Class Is	And Seabreeze Impact Is	Then Use Worksheet #	If Stability Is	And Seabreeze Is	Then Use #
A	YES	1	C	NO	6
A	NO	2	D	N/A	7
B	YES	3	E	N/A	8
B	NO	4	F	N/A	9
C	YES	5	G	N/A	10

8. Copy information to Attachment 2:
- WIND DIRECTION, AFFECTED SECTORS and METHOD to Line A.
  - WIND SPEED to Lines 2 and 9.
  - Place a check in the blank to the left of Met Tower on Line A.
9. This worksheet is completed, proceed to release rate determination, Attachment 3.

## ATTACHMENT 1

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## METEOROLOGICAL DATA WORKSHEET

## Part B - NWS Worksheet

In the event data is unavailable from the meteorological strip chart recorder or ERDADS, use the following procedure:

## 1. GATHER DATA

A. Date: \_\_\_\_\_ Time: \_\_\_\_\_ of observations

B. Phone National Weather Services, using the commercial phone AND ask to be connected to lead forecaster. Commercial phone numbers are available in the Emergency Response Directory.

C. Copy Current weather conditions as follows:

Temperature: ..... °F  
 WIND DIRECTION: ..... Degrees  
 WIND SPEED: ..... (MPH)  
 Sky Condition: Clear or

Scattered: .....

Broken: .....

Overcast: .....

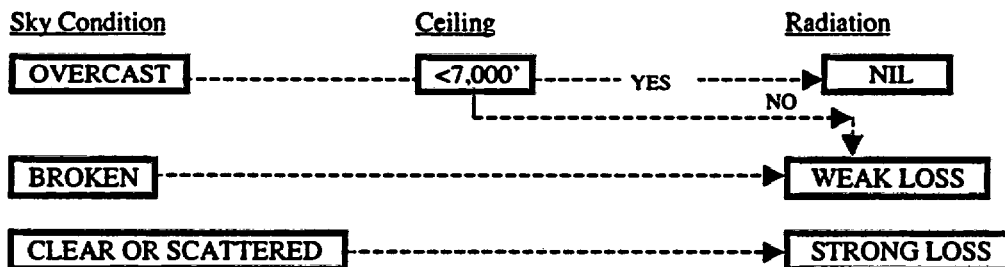
IF Broken or overcast,

THEN copy ceiling height: ..... Ft.

2. IF DAYTIME (1 hour after sunrise to 1 hour before sunset), THEN go to Step 4 (next page).

## 3. NIGHTTIME CALCULATIONS

A. Determine Solar Radiation Characteristics:



B. Circle Stability Category (D through G)

Solar Radiation	Wind Speed (mph)						
	Less than 5	5, 6	7	8	9, 10	11	12 and above
Nil	D	D	D	D	D	D	D
Weak Loss	F	E	E	D	D	D	D
Strong Loss	G	F	F	E	E	E	D

C. Seabreeze Impact = No

D. Go to Step 5

**ATTACHMENT 1**  
(Page 4 of 7)  
**METEOROLOGICAL DATA WORKSHEET**

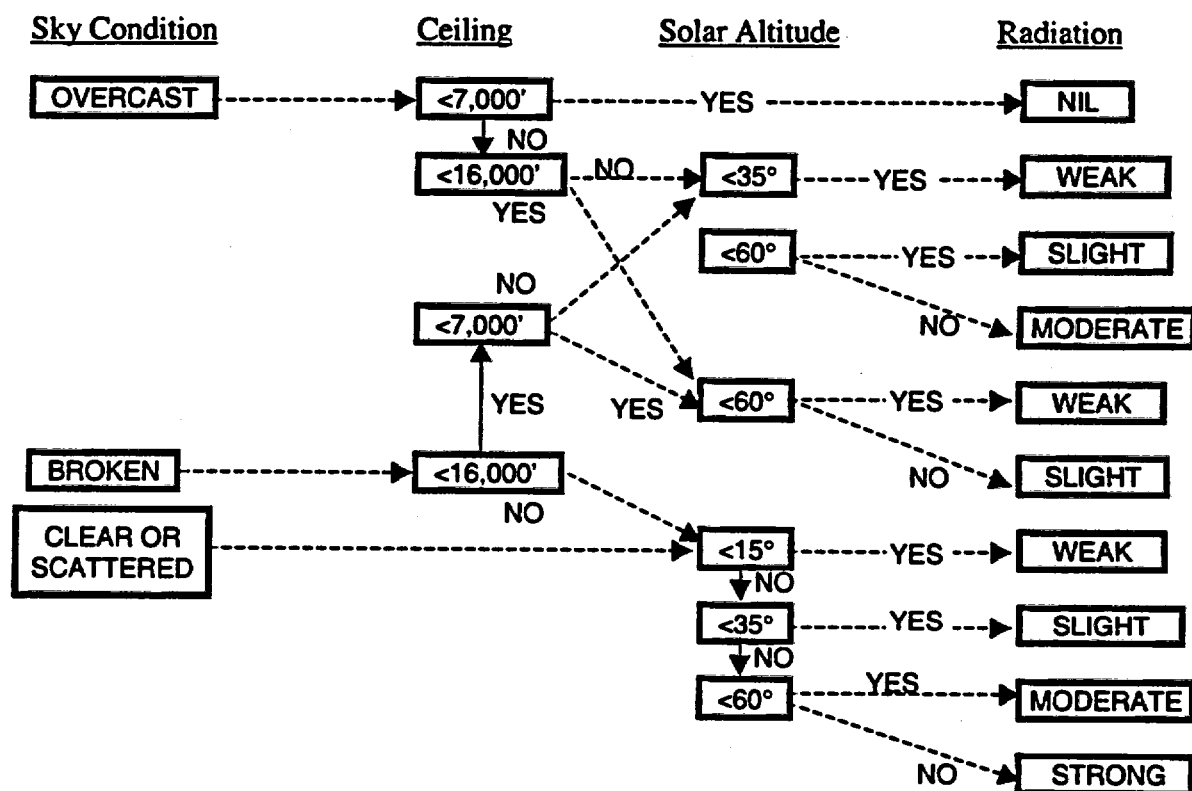
**Part B - NWS Worksheet**

**4. DAYTIME CALCULATIONS:**

A. Determine solar altitude (angle of sun above horizon) using Figure A-1 of this Attachment.

Circle Solar Altitude =      <15      15 to <35      35 to <60      ≥60

B. Determine Solar Radiation Characteristics: (Place check mark next to appropriate box in radiation column)



C. Circle Stability Category (A through D)

<u>Solar Radiation</u>	<u>Wind Speed (mph)</u>								
	0.1	2.4	5.6	7	8	9,10	11	12	>12
Strong	A	A	A	B	B	B	C	C	C
Moderate	A	B	B	B	B	C	C	C	D
Slight	B	B	C	C	C	C	D	D	D
Weak	C	C	D	D	D	D	D	D	D
Nil	D	D	D	D	D	D	D	D	D

D. **IF** stability class is A, B, or C **AND** wind direction is from 20 degrees through east to 220 degrees, **THEN** seabreeze impact = Y, otherwise impact = N.

## ATTACHMENT 1

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## METEOROLOGICAL DATA WORKSHEET

## Part B - NWS Worksheet

5. Using the Wind (from) Direction, circle the **AFFECTED SECTORS** in the table:

**NOTE:** If the wind direction is directly on the edge of two sectors (e.g., 11°, 33°, 56°, etc.), an additional sector should be added to the protective action recommendations. For example, if the wind direction is from 78°, then the affected sectors for PARs should be L, M, N, and P.

Wind From	Affected Sectors	Wind From	Affected Sectors	Wind From	Affected Sectors
348 - 11	H J K	123 - 146	P Q R	258 - 281	D E F
11 - 33	J K L	146 - 168	Q R A	281 - 303	E F G
33 - 56	K L M	168 - 191	R A B	303 - 326	F G H
56 - 78	L M N	191 - 213	A B C	326 - 348	G H J
78 - 101	M N P	213 - 236	B C D	<b>Note:</b> there is no sector I or O	
101 - 123	N P Q	236 - 258	C D E		

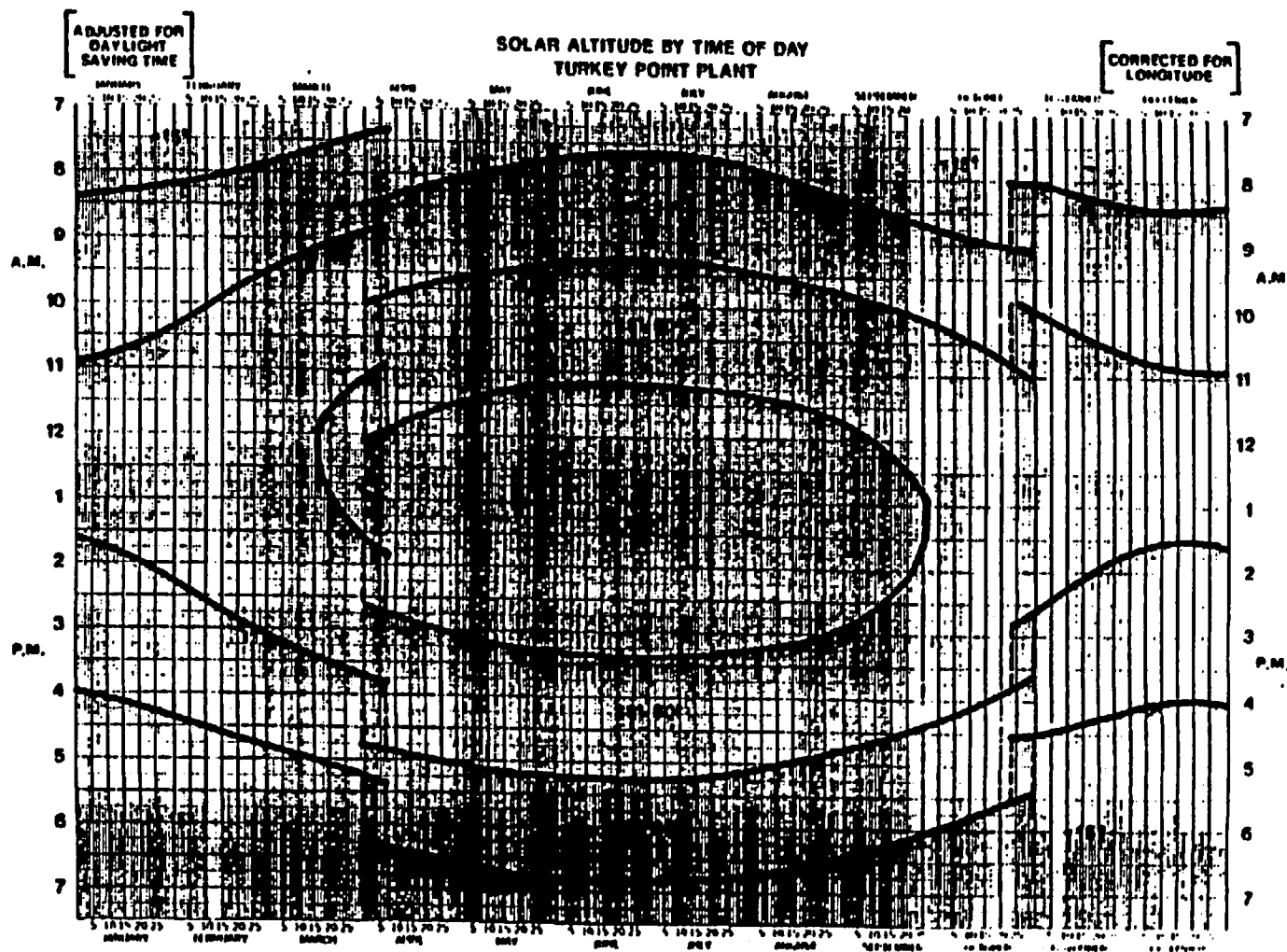
6. Select the Dose Calculation Worksheet (Attachment 2).

If Stability Class Is	And Seabreeze Impact Is	Then Use Worksheet #	If Stability Is	And Seabreeze Is	Then Use #
A	YES	1	C	NO	6
A	NO	2	D	N/A	7
B	YES	3	E	N/A	8
B	NO	4	F	N/A	9
C	YES	5	G	N/A	10

7. Copy information to Attachment 2.
- WIND DIRECTION, AFFECTED SECTORS and METHOD** to Line A.
  - WIND SPEED** to Lines 2 and 9.
  - Place a check in the blank to the left of NWS on Line A.
8. This worksheet is completed, proceed to release rate determination, Attachment 3.

ATTACHMENT 1  
(Page 6 of 7)  
METEOROLOGICAL DATA WORKSHEET

Part B - NWS Worksheet  
FIGURE A-1



## ATTACHMENT 1

(Page 7 of 7)

## METEOROLOGICAL DATA WORKSHEET

## Part C - Default Met Worksheet

**NOTE:** This method is to be used only if Site Tower and National Weather Service Data is not available.

1. **WIND DIRECTION** may be based on local observations or other suitable methods of estimation. If Wind Direction is available, determine Affected Sectors, using the table below.

IF WIND DIRECTION DATA IS NOT AVAILABLE, THEN AFFECTED SECTORS IS ALL (SECTORS)

Observed Wind Direction \_\_\_\_\_, Affected Sectors \_\_\_\_\_ at Date \_\_\_\_\_ Time \_\_\_\_\_

**NOTE:** If the wind direction is directly on the edge of two sectors (e.g., 11°, 33°, 56°, etc.), an additional sector should be added to the protective action recommendations. For example, if the wind direction is from 78°, then the affected sectors for PARs should be L, M, N, and P.

Wind From	Affected Sectors	Wind From	Affected Sectors	Wind From	Affected Sectors
348 - 11	H J K	123 - 146	P Q R	258 - 281	D E F
11 - 33	J K L	146 - 168	Q R A	281 - 303	E F G
33 - 56	K L M	168 - 191	R A B	303 - 326	F G H
56 - 78	L M N	191 - 213	A B C	326 - 348	G H J
78 - 101	M N P	213 - 236	B C D	<b>Note:</b> there is no sector I or O	
101 - 123	N P Q	236 - 258	C D E		

2. **IF** Daytime Hours (1 hour after sunrise and 1 hour before sunset) **THEN:**

Select DOSE CALCULATION WORKSHEET 8, (Stability Class E, Seabreeze Impact = N/A)

Check DEFAULT method in Line A

Wind Speed = 5 mph in line 2 and 9

Copy Affected Sectors, from Step 1, to Line A

Use of this method is complete, proceed to release rate determination, Attachment 3

3. **IF** Not Daytime Hours **THEN:**

Select DOSE CALCULATION WORKSHEET 9, (Stability Class F, Seabreeze Impact = N/A)

Check DEFAULT method in Line A

Wind Speed = 5 mph in line 2 and 9

Copy Affected Sectors, from Step 1, to Line A

Use of this method is complete, proceed to release rate determination, Attachment 3

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**ATTACHMENT 2**  
(Page 1 of 10)  
**DOSE CALCULATION WORKSHEETS**

**WORKSHEET 1**      **STABILITY CLASS = A**      **SEABREEZE IMPACT = YES**      **UNIT** \_\_\_\_\_

A.    Met Summary:    Wind Direction (from) \_\_\_\_\_    Affected Sectors \_\_\_\_\_  
          Check method used: \_\_\_\_\_ Met Tower \_\_\_\_\_    NWS \_\_\_\_\_    Default \_\_\_\_\_

B.    Release Rate determined by: \_\_\_\_\_ Grab \_\_\_\_\_    Effluent Mon \_\_\_\_\_    Default \_\_\_\_\_  
          \_\_\_\_\_    CHRRM \_\_\_\_\_    Attachment \_\_\_\_\_

Date and time of starting calculations: \_\_\_\_\_ / \_\_\_\_\_

Follow the Instructions to calculate doses @						Use Code •
Line	Instructions for THYROID DOSES	1 mile	2 miles	5 miles	10 miles	
1	Enter the Iodine Release Rate, Ci/sec					SNF
2	Enter the Wind Speed, mph					SNF
3	Divide Line 1 by Line 2					
4	Iodine Dose Factors	2.2 E+ 4	8.1 E+3	2.2 E+3	7.8 E+2	
5	Multiply Line 3 by Line 4 to obtain <b>THYROID DOSE (CDE) RATE, mrem/hr</b>					SNF
6	Enter Duration of release, hours					SNF
7	Multiply Line 5 by Line 6 to obtain <b>THYROID DOSE (CDE), mrem</b>					PAR
* SNF (State Notification Form ); PAR (Protective Action Recommendation Worksheet)						
Line	Instructions for TOTAL WHOLE BODY DOSES	1 mile	2 miles	5 miles	10 miles	
8	Enter Noble Gas Release Rate, Ci/sec					SNF
9	Enter the Wind Speed, from Line 2 above					
10	Divide Line 8 by Line 9					
11	Enter the Particulate Factor (PF)					
12	Multiply Line 10 by Line 11					
13	Noble Gas Dose Factors	6.1	2.3	0.64	0.22	
14	Multiply Line 12 by Line 13					
15	Enter (Line 5 multiplied by 0.04)					
16	Add Line 14 and Line 15 to obtain <b>TOTAL DOSE (TEDE) RATE, mrem/hr</b>					SNF
17	Enter Duration of release, hours					
18	Multiply Line 16 by Line 17 to obtain <b>TOTAL DOSE (TEDE), mrem</b>					PAR
19	Forward this worksheet (or a copy) to the Emergency Coordinator (RM if done in EOF)					
20	Dose Calculations completed; continue monitoring releases and assessing doses.					



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## Off-site Dose Calculations

Approval Date:

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**ATTACHMENT 2**  
(Page 2 of 10)  
**DOSE CALCULATION WORKSHEETS**

**WORKSHEET 2**

STABILITY CLASS = A

SEABREEZE IMPACT = NO

UNIT \_\_\_\_\_

A. Met Summary: Wind Direction (from) \_\_\_\_\_ Affected Sectors \_\_\_\_\_

Check method used: \_\_\_\_\_ Met Tower \_\_\_\_\_ NWS \_\_\_\_\_ Default \_\_\_\_\_

B. Release Rate determined by: \_\_\_\_\_ Grab \_\_\_\_\_ Effluent Mon \_\_\_\_\_ Default \_\_\_\_\_  
CHRRM \_\_\_\_\_ Attachment \_\_\_\_\_

Date and time of starting calculations: \_\_\_\_\_ / \_\_\_\_\_

**Follow the instructions to calculate doses @**

Line	Instructions for THYROID DOSES	1 mile	2 miles	5 miles	10 miles	Use Code
1	Enter the Iodine Release Rate, Ci/sec					SNF
2	Enter the Wind Speed, mph					SNF
3	Divide Line 1 by Line 2					
4	Iodine Dose Factors	3.6 E+3	1.8 E+3	7.7 E+2	3.9 E+2	
5	Multiply Line 3 by Line 4 to obtain THYROID DOSE (CDE) RATE, mrem/hr					SNF
6	Enter Duration of release, hours					SNF
7	Multiply Line 5 by Line 6 to obtain THYROID DOSE (CDE), mrem					PAR
* SNF (State Notification Form ); PAR (Protective Action Recommendation Worksheet)						
Line	Instructions for TOTAL WHOLE BODY DOSES	1 mile	2 miles	5 miles	10 miles	
8	Enter Noble Gas Release Rate, Ci/sec					SNF
9	Enter the Wind Speed, from Line 2 above					
10	Divide Line 8 by Line 9					
11	Enter the Particulate Factor (PF)					
12	Multiply Line 10 by Line 11					
13	Noble Gas Dose Factors	1.0	0.5	0.22	0.11	
14	Multiply Line 12 by Line 13					
15	Enter (Line 5 multiplied by 0.04)					
16	Add Line 14 and Line 15 to obtain TOTAL DOSE (TEDE) RATE, mrem/hr					SNF
17	Enter Duration of release, hours					
18	Multiply Line 16 by Line 17 to obtain TOTAL DOSE (TEDE) mrem					PAR
19	Forward this worksheet (or a copy) to the Emergency Coordinator (RM if done in EOF)					
20	Dose Calculations completed; continue monitoring releases and assessing doses.					

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Off-site Dose Calculations

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**ATTACHMENT 2**  
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**DOSE CALCULATION WORKSHEETS**

**WORKSHEET 3**      **STABILITY CLASS = B**      **SEABREEZE IMPACT = YES**      **UNIT** \_\_\_\_\_

A.    Met Summary:    Wind Direction (from) \_\_\_\_\_    Affected Sectors \_\_\_\_\_

         Check method used: \_\_\_\_\_ Met Tower \_\_\_\_\_ NWS \_\_\_\_\_ Default \_\_\_\_\_

B.    Release Rate determined by: \_\_\_\_\_ Grab \_\_\_\_\_ Effluent Mon \_\_\_\_\_ Default \_\_\_\_\_

         \_\_\_\_\_ CHRRM \_\_\_\_\_ Attachment \_\_\_\_\_

Date and time of starting calculations: \_\_\_\_\_ / \_\_\_\_\_

Follow the Instructions to calculate doses @						Use Code *
Line	Instructions for THYROID DOSES	1 mile	2 miles	5 miles	10 miles	
1	Enter the Iodine Release Rate, Ci/sec					SNF
2	Enter the Wind Speed, mph					SNF
3	Divide Line 1 by Line 2					
4	Iodine Dose Factors	3.0 E+4	1.1 E+4	3.0 E+3	1.1 E+3	
5	Multiply Line 3 by Line 4 to obtain THYROID DOSE (CDE) RATE, mrem/hr					SNF
6	Enter Duration of release, hours					SNF
7	Multiply Line 5 by Line 6 to obtain THYROID DOSE (CDE), mrem					PAR
* SNF (State Notification Form ); PAR (Protective Action Recommendation Worksheet)						
Line	Instructions for TOTAL WHOLE BODY DOSES	1 mile	2 miles	5 miles	10 miles	
8	Enter Noble Gas Release Rate, Ci/sec					SNF
9	Enter the Wind Speed, from Line 2 above					
10	Divide Line 8 by Line 9					
11	Enter the Particulate Factor (PF)					
12	Multiply Line 10 by Line 11					
13	Noble Gas Dose Factors	8.3	2.9	0.84	0.30	
14	Multiply Line 12 by Line 13					
15	Enter (Line 5 multiplied by 0.04)					
16	Add Line 14 and Line 15 to obtain TOTAL DOSE (TEDE) RATE, mrem/hr					SNF
17	Enter Duration of release, hours					
18	Multiply Line 16 by Line 17 to obtain TOTAL DOSE (TEDE), mrem					PAR
19	Forward this worksheet (or a copy) to the Emergency Coordinator (RM if done in EOF)					
20	Dose Calculations completed; continue monitoring releases and assessing doses.					

**ATTACHMENT 2**  
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**DOSE CALCULATION WORKSHEETS**

**WORKSHEET 4      STABILITY CLASS = B      SEABREEZE IMPACT = NO      UNIT \_\_\_\_\_**

**A. Met Summary:** Wind Direction (from)\_\_\_\_\_ Affected Sectors\_\_\_\_\_

Check method used: Met Tower NWS Default

**B. Release Rate determined by:** Grab Effluent Mon Default  
CHRRM Attachment

Date and time of starting calculations: \_\_\_\_\_ / \_\_\_\_\_

Follow the instructions to calculate doses @							Use Code *
Line	Instructions for THYROID DOSES	1 mile	2 miles	5 miles	10 miles		
1	Enter the Iodine Release Rate, Ci/sec					SNF	SNF
2	Enter the Wind Speed, mph						
3	Divide Line 1 by Line 2						
4	Iodine Dose Factors	2.3 E+4	5.9 E+3	1.1 E+3	5.7 E+2		
5	Multiply Line 3 by Line 4 to obtain THYROID DOSE (CDE) RATE, mrem/hr					SNF	
6	Enter Duration of release, hours					SNF	
7	Multiply Line 5 by Line 6 to obtain THYROID DOSE (CDE), mrem					PAR	
* SNF (State Notification Form ); PAR (Protective Action Recommendation Worksheet)							
Line	Instructions for TOTAL WHOLE BODY DOSES	1 mile	2 miles	5 miles	10 miles		
8	Enter Noble Gas Release Rate, Ci/sec					SNF	
9	Enter the Wind Speed, from Line 2 above						
10	Divide Line 8 by Line 9						
11	Enter the Particulate Factor (PF)						
12	Multiply Line 10 by Line 11						
13	Noble Gas Dose Factors	6.4	1.6	0.31	0.15		
14	Multiply Line 12 by Line 13						
15	Enter (Line 5 multiplied by 0.04)						
16	Add Line 14 and Line 15 to obtain TOTAL DOSE (TEDE) RATE, mrem/hr					SNF	
17	Enter Duration of release, hours						
18	Multiply Line 16 by Line 17 to obtain TOTAL DOSE (TEDE), mrem					PAR	
19	Forward this worksheet (or a copy) to the Emergency Coordinator (RM if done in EOF)						
20	Dose Calculations completed; continue monitoring releases and assessing doses.						

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**ATTACHMENT 2**  
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**DOSE CALCULATION WORKSHEETS**

**WORKSHEET 5**      **STABILITY CLASS = C**      **SEABREEZE IMPACT = YES**      **UNIT** \_\_\_\_\_

A. Met Summary: Wind Direction (from) \_\_\_\_\_ Affected Sectors \_\_\_\_\_

Check method used: \_\_\_\_\_ Met Tower \_\_\_\_\_ NWS \_\_\_\_\_ Default \_\_\_\_\_

B. Release Rate determined by: \_\_\_\_\_ Grab \_\_\_\_\_ Effluent Mon \_\_\_\_\_ Default \_\_\_\_\_

\_\_\_\_\_ CHRRM \_\_\_\_\_ Attachment \_\_\_\_\_

Date and time of starting calculations: \_\_\_\_\_ / \_\_\_\_\_

Follow the instructions to calculate doses @						Use Code *
Line	Instructions for THYROID DOSES	1 mile	2 miles	5 miles	10 miles	
1	Enter the Iodine Release Rate, Ci/sec					SNF
2	Enter the Wind Speed, mph					
3	Divide Line 1 by Line 2					
4	Iodine Dose Factors	5.9 E+4	1.7 E+4	3.7 E+3	1.5 E+3	SNF
5	Multiply Line 3 by Line 4 to obtain THYROID DOSE (CDE) RATE, mrem/hr					
6	Enter Duration of release, hours					
7	Multiply Line 5 by Line 6 to obtain THYROID DOSE (CDE), mrem					PAR
* SNF (State Notification Form ); PAR (Protective Action Recommendation Worksheet)						
Line	Instructions for TOTAL WHOLE BODY DOSES	1 mile	2 miles	5 miles	10 miles	SNF
8	Enter Noble Gas Release Rate, Ci/sec					
9	Enter the Wind Speed, from Line 2 above					
10	Divide Line 8 by Line 9					SNF
11	Enter the Particulate Factor (PF)					
12	Multiply Line 10 by Line 11					
13	Noble Gas Dose Factors	16.0	4.6	1.1	0.42	SNF
14	Multiply Line 12 by Line 13					
15	Enter (Line 5 multiplied by 0.04)					
16	Add Line 14 and Line 15 to obtain TOTAL DOSE (TEDE) RATE, mrem/hr					PAR
17	Enter Duration of release, hours					
18	Multiply Line 16 by Line 17 to obtain TOTAL DOSE (TEDE), mrem					
19	Forward this worksheet (or a copy) to the Emergency Coordinator (RM if done in EOF)					
20	Dose Calculations completed; continue monitoring releases and assessing doses.					

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Off-site Dose Calculations

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**DOSE CALCULATION WORKSHEETS**

**WORKSHEET 6**      **STABILITY CLASS = C**      **SEABREEZE IMPACT = NO**      **UNIT** \_\_\_\_\_

A. Met Summary: Wind Direction (from) \_\_\_\_\_ Affected Sectors \_\_\_\_\_

Check method used: \_\_\_\_\_ Met Tower \_\_\_\_\_ NWS \_\_\_\_\_ Default \_\_\_\_\_

B. Release Rate determined by: \_\_\_\_\_ Grab \_\_\_\_\_ Effluent Mon \_\_\_\_\_ Default \_\_\_\_\_

\_\_\_\_\_ CHRRM \_\_\_\_\_ Attachment \_\_\_\_\_

Date and time of starting calculations: \_\_\_\_\_ / \_\_\_\_\_

Follow the Instructions to calculate doses @						Use Code *
Line	Instructions for THYROID DOSES	1 mile	2 miles	5 miles	10 miles	
1	Enter the Iodine Release Rate, Ci/sec					SNF
2	Enter the Wind Speed, mph					SNF
3	Divide Line 1 by Line 2					
4	Iodine Dose Factors	5.9 E+ 4	1.7 E+4	3.1 E+3	9.1 E+2	
5	Multiply Line 3 by Line 4 to obtain THYROID DOSE (CDE) RATE, mrem/hr					SNF
6	Enter Duration of release, hours					SNF
7	Multiply Line 5 by Line 6 to obtain THYROID DOSE (CDE), mrem					PAR
* SNF (State Notification Form ); PAR (Protective Action Recommendation Worksheet)						
Line	Instructions for TOTAL WHOLE BODY DOSES	1 mile	2 miles	5 miles	10 miles	
8	Enter Noble Gas Release Rate, Ci/sec					SNF
9	Enter the Wind Speed, from Line 2 above					
10	Divide Line 8 by Line 9					
11	Enter the Particulate Factor (PF)					
12	Multiply Line 10 by Line 11					
13	Noble Gas Dose Factors	16.0	4.6	0.88	0.26	
14	Multiply Line 12 by Line 13					
15	Enter (Line 5 multiplied by 0.04)					
16	Add Line 14 and Line 15 to obtain TOTAL DOSE (TEDE) RATE, mrem/hr					SNF
17	Enter Duration of release, hours					
18	Multiply Line 16 by Line 17 to obtain TOTAL DOSE (TEDE), mrem					PAR
19	Forward this worksheet (or a copy) to the Emergency Coordinator (RM if done in EOF)					
20	Dose Calculations completed; continue monitoring releases and assessing doses.					

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**ATTACHMENT 2**  
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**DOSE CALCULATION WORKSHEETS**

**WORKSHEET 7**      **STABILITY CLASS = D**      **SEABREEZE IMPACT = N/A**      **UNIT** \_\_\_\_\_

A. Met Summary: Wind Direction (from) \_\_\_\_\_ Affected Sectors \_\_\_\_\_  
 Check method used: \_\_\_\_\_ Met Tower \_\_\_\_\_ NWS \_\_\_\_\_ Default \_\_\_\_\_

B. Release Rate determined by: \_\_\_\_\_ Grab \_\_\_\_\_ Effluent Mon \_\_\_\_\_ Default \_\_\_\_\_  
 \_\_\_\_\_ CHRRM \_\_\_\_\_ Attachment \_\_\_\_\_

Date and time of starting calculations: \_\_\_\_\_ / \_\_\_\_\_

Follow the instructions to calculate doses @						Use Code *
Line	Instructions for THYROID DOSES	1 mile	2 miles	5 miles	10 miles	
1	Enter the Iodine Release Rate, Ci/sec					SNF
2	Enter the Wind Speed, mph					SNF
3	Divide Line 1 by Line 2					
4	Iodine Dose Factors	1.6 E+5	5.9 E+4	1.6 E+4	5.7 E+3	
5	Multiply Line 3 by Line 4 to obtain THYROID DOSE (CDE) RATE, mrem/hr					SNF
6	Enter Duration of release, hours					SNF
7	Multiply Line 5 by Line 6 to obtain THYROID DOSE (CDE), mrem					PAR
* SNF (State Notification Form ); PAR (Protective Action Recommendation Worksheet)						
Line	Instructions for TOTAL WHOLE BODY DOSES	1 mile	2 miles	5 miles	10 miles	
8	Enter Noble Gas Release Rate, Ci/sec					SNF
9	Enter the Wind Speed, from Line 2 above					
10	Divide Line 8 by Line 9					
11	Enter the Particulate Factor (PF)					
12	Multiply Line 10 by Line 11					
13	Noble Gas Dose Factors	44.0	17.0	4.4	1.6	
14	Multiply Line 12 by Line 13					
15	Enter (Line 5 multiplied by 0.04)					
16	Add Line 14 and Line 15 to obtain TOTAL DOSE (TEDE) RATE, mrem/hr					SNF
17	Enter Duration of release, hours					
18	Multiply Line 16 by Line 17 to obtain TOTAL DOSE (TEDE), mrem					PAR
19	Forward this worksheet (or a copy) to the Emergency Coordinator (RM if done in EOF)					
20	Dose Calculations completed; continue monitoring releases and assessing doses.					

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**DOSE CALCULATION WORKSHEETS**

**WORKSHEET 8**      **STABILITY CLASS = E**      **SEABREEZE IMPACT = N/A**      **UNIT** \_\_\_\_\_

A. Met Summary: Wind Direction (from) \_\_\_\_\_ Affected Sectors \_\_\_\_\_  
Check method used: \_\_\_\_\_ Met Tower \_\_\_\_\_ NWS \_\_\_\_\_ Default \_\_\_\_\_

B. Release Rate determined by: \_\_\_\_\_ Grab \_\_\_\_\_ Effluent Mon \_\_\_\_\_ Default \_\_\_\_\_  
\_\_\_\_\_ CHRRM \_\_\_\_\_ Attachment \_\_\_\_\_

Date and time of starting calculations: \_\_\_\_\_ / \_\_\_\_\_

Follow the instructions to calculate doses @						Use Code *
Line	Instructions for THYROID DOSES	1 mile	2 miles	5 miles	10 miles	
1	Enter the Iodine Release Rate, Ci/sec					SNF
2	Enter the Wind Speed, mph					SNF
3	Divide Line 1 by Line 2					
4	Iodine Dose Factors	2.9 E+5	1.2 E+5	3.6 E+4	1.5 E+4	
5	Multiply Line 3 by Line 4 to obtain THYROID DOSE (CDE) RATE, mrem/hr					SNF
6	Enter Duration of release, hours					SNF
7	Multiply Line 5 by Line 6 to obtain THYROID DOSE (CDE), mrem					PAR
* SNF (State Notification Form ); PAR (Protective Action Recommendation Worksheet)						
Line	Instructions for TOTAL WHOLE BODY DOSES	1 mile	2 miles	5 miles	10 miles	
8	Enter Noble Gas Release Rate, Ci/sec					SNF
9	Enter the Wind Speed, from Line 2 above					
10	Divide Line 8 by Line 9					
11	Enter the Particulate Factor (PF)					
12	Multiply Line 10 by Line 11					
13	Noble Gas Dose Factors	81.0	33.0	10.0	4.0	
14	Multiply Line 12 by Line 13					
15	Enter (Line 5 multiplied by 0.04)					
16	Add Line 14 and Line 15 to obtain TOTAL DOSE (TEDE) RATE, mrem/hr					SNF
17	Enter Duration of release, hours					
18	Multiply Line 16 by Line 17 to obtain TOTAL DOSE (TEDE), mrem					PAR
19	Forward this worksheet (or a copy) to the Emergency Coordinator {RM if done in EOF}					
20	Dose Calculations completed; continue monitoring releases and assessing doses.					

**ATTACHMENT 2**  
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**DOSE CALCULATION WORKSHEETS**

**WORKSHEET 9      STABILITY CLASS = F      SEABREEZE IMPACT = N/A      UNIT \_\_\_\_\_**

A. Met Summary: Wind Direction (from) \_\_\_\_\_ Affected Sectors \_\_\_\_\_

Check method used: Met Tower NWS Default

B. Release Rate determined by:                      Grab                      Effluent Mon                      Default

CHRRM	Attachment
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**Date and time of starting calculations:** \_\_\_\_\_

Follow the instructions to calculate doses @							Use Code *
Line	Instructions for THYROID DOSES	1 mile	2 miles	5 miles	10 miles		
1	Enter the Iodine Release Rate, Ci/sec					SNF	SNF
2	Enter the Wind Speed, mph						
3	Divide Line 1 by Line 2						
4	Iodine Dose Factors	5.2 E+5	2.3 E+5	7.7 E+4	3.6 E+4		
5	Multiply Line 3 by Line 4 to obtain THYROID DOSE (CDE) RATE, mrem/hr					SNF	
6	Enter Duration of release, hours					SNF	
7	Multiply Line 5 by Line 6 to obtain THYROID DOSE (CDE), mrem					PAR	
* SNF (State Notification Form) ; PAR (Protective Action Recommendation Worksheet)							
Line	Instructions for TOTAL WHOLE BODY DOSES	1 mile	2 miles	5 miles	10 miles		
8	Enter Noble Gas Release Rate, Ci/sec					SNF	SNF
9	Enter the Wind Speed, from Line 2 above						
10	Divide Line 8 by Line 9						
11	Enter the Particulate Factor (PF)						
12	Multiply Line 10 by Line 11						
13	Noble Gas Dose Factors	1.5 E+2	6.6 E+1	2.2 E+1	9.5 E 0		
14	Multiply Line 12 by Line 13						
15	Enter (Line 5 multiplied by 0.04)						
16	Add Line 14 and Line 15 to obtain TOTAL DOSE (TEDE) RATE, mrem/hr					SNF	
17	Enter Duration of release, hours						
18	Multiply Line 16 by Line 17 to obtain TOTAL DOSE (TEDE), mrem					PAR	
19	Forward this worksheet (or a copy) to the Emergency Coordinator (RM if done in EOF)						
20	Dose Calculations completed; continue monitoring releases and assessing doses.						



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## Off-site Dose Calculations

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**ATTACHMENT 2**  
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**DOSE CALCULATION WORKSHEETS**

**WORKSHEET 10**      **STABILITY CLASS = G**      **SEABREEZE IMPACT = N/A**      **UNIT** \_\_\_\_\_

A. Met Summary: Wind Direction (from) \_\_\_\_\_ Affected Sectors \_\_\_\_\_

Check method used: \_\_\_\_\_ Met Tower \_\_\_\_\_ NWS \_\_\_\_\_ Default \_\_\_\_\_

B. Release Rate determined by: \_\_\_\_\_ Grab \_\_\_\_\_ Effluent Mon \_\_\_\_\_ Default \_\_\_\_\_

\_\_\_\_\_ CHRRM \_\_\_\_\_ Attachment \_\_\_\_\_

Date and time of starting calculations: \_\_\_\_\_ / \_\_\_\_\_

Follow the instructions to calculate doses @						Use Code *
Line	Instructions for THYROID DOSES	1 mile	2 miles	5 miles	10 miles	
1	Enter the Iodine Release Rate, Ci/sec	_____				SNF
2	Enter the Wind Speed, mph	_____				SNF
3	Divide Line 1 by Line 2	_____				
4	Iodine Dose Factors	9.1 E+5	4.6 E+5	1.7 E+5	7.7 E+4	
5	Multiply Line 3 by Line 4 to obtain THYROID DOSE (CDE) RATE, mrem/hr					SNF
6	Enter Duration of release, hours	_____				SNF
7	Multiply Line 5 by Line 6 to obtain THYROID DOSE (CDE), mrem					PAR
* SNF (State Notification Form ); PAR (Protective Action Recommendation Worksheet)						
Line	Instructions for TOTAL WHOLE BODY DOSES	1 mile	2 miles	5 miles	10 miles	
8	Enter Noble Gas Release Rate, Ci/sec	_____				SNF
9	Enter the Wind Speed, from Line 2 above	_____				
10	Divide Line 8 by Line 9	_____				
11	Enter the Particulate Factor (PF)	_____				
12	Multiply Line 10 by Line 11	_____				
13	Noble Gas Dose Factors	2.4 E+2	1.2 E+2	4.8 E+1	2.2 E+1	
14	Multiply Line 12 by Line 13					
15	Enter (Line 5 multiplied by 0.04)					
16	Add Line 14 and Line 15 to obtain TOTAL DOSE (TEDE) RATE, mrem/hr					SNF
17	Enter Duration of release, hours	_____				
18	Multiply Line 16 by Line 17 to obtain TOTAL DOSE (TEDE), mrem					PAR
19	Forward this worksheet (or a copy) to the Emergency Coordinator (RM if done in EOF)					
20	Dose Calculations completed; continue monitoring releases and assessing doses.					

Procedure No.:  <b>0-EPIP-20126</b>	Procedure Title:  <b>Off-site Dose Calculations</b>	Page:  <b>43</b>
		Approval Date:  <b>6/1/00</b>

**ATTACHMENT 3**  
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**RADIOACTIVE RELEASE WORKSHEET**

**Part A - Grab Sample Data Worksheet**

1. Date: \_\_\_\_\_ and Time \_\_\_\_\_ of Data, Unit \_\_\_\_\_
2. Ask the Emergency Coordinator for the following:
  - a. Accident Type: \_\_\_\_\_
  - b. Potential Duration of Release (if unknown, use default): \_\_\_\_\_ hours
  - c. Is the core overheating/melting? (circle): **YES** **NO**
3. **IF** the core is overheating or melting, **THEN** Particulate Factor (PF) = 4.4, else PF = 1.0; enter PF \_\_\_\_\_
4. Enter the Gross Noble Gas and Iodine-131 DEQ, in  $\mu\text{Ci/cc}$  for the affected/sampled pathways, into the table below:
  - a. **IF** Iodine results are not available, **THEN** calculate as shown below, using the Iodine Release Rate Factor, found on Page 2 of 6.  
 Noble Gas Conc X IRRF = Iodine Conc  
 \_\_\_\_\_  $\text{NG}(\mu\text{Ci/cc})$  X \_\_\_\_\_ IRRF = \_\_\_\_\_ Iodine ( $\mu\text{Ci/cc}$ )
5. Determine pathway flow in cc/sec for plant vent and steam lines (if affected).
  - a. For Plant Vent; calculate as shown below:  
 Plant vent channel 10 flowrate (cfm) x 472 = plant vent flowrate (cc/sec)  
 \_\_\_\_\_  $\text{PV Chl 10 X 472} =$  \_\_\_\_\_ PV (cc/sec)  
**IF** Plant Vent Sping Ch. 10 data is not available, **THEN** use the Plant Vent Fan Configuration Table on Page 2 of 6.
  - b. For Main Steam Lines, refer to Page 2 of 6.
6. Calculate Release Rates:

Pathway	Type	Release Rate, Ci/sec $\mu\text{Ci/cc} \times \text{Flow cc/sec} \times \mu\text{Ci to Ci} = \text{Noble Gas Iodine}$				
Plant Vent	Noble Gas			I E -6	//////////	
	Iodines				//////////	
Main Steam Lines	Noble Gas			I E -6	//////////	
	Iodines				//////////	
Cond Air Ejector	Noble Gas		1.42E 4	I E -6	//////////	
	Iodines				//////////	
U-3 Fuel Pool Vent	Noble Gas		9.43E 6	I E -6	//////////	
	Iodines				//////////	

7. Calculate Site Release Rate:

Total the Release Rates using this Worksheet		
Enter other Release Rates (e.g., CHRRM/Other Unit)		
Add to obtain Site Release Rate		

8. Enter the Site Release Rates in Attachment 2.
  - a. Place a check in the blank to the left of Grab in Line B to indicate this method.
  - b. Enter the Noble Gas Release Rate into Line 8.
  - c. Enter the Iodine Release Rate into Line 1.
  - d. Enter the Duration (if 2 affected units, use longest) into Line 6 and Line 17.
  - e. Enter the PF (Particulate Factor) (if 2 affected units, use largest) into Line 11.
9. This worksheet is done, follow the instructions on Attachment 2.

## ATTACHMENT 3

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## RADIOACTIVE RELEASE WORKSHEET

## Part A - Grab Sample Data Worksheet

Iodine Release Rate Factors (IRRF)

<u>Plant Condition</u>	<u>IRRF</u>
LOCA and Emergency Containment Filter(s) in use	0.011
LOCA and Emergency Containment Filter(s) not in use	0.063
Fuel Handling	0.001
Steam Generator Tube Rupture	6.8E-4
Waste Gas Decay Tank or VCT release	1E - 06

Plant Vent Exhaust Fan Configuration Table

CONTAINMENT PURGE	AUXILIARY BUILDING	SPENT FUEL PIT	RADWASTE BUILDING	LAUNDRY SYSTEM	PLANT VENT FLOW cc/sec
0	0	1	2	1	1.45 E+7
0	1	1	2	1	3.82 E+7
0	2	1	2	1	4.31 E+7
1	1	1	2	1	4.74 E+7
1	2	1	2	1	5.07 E+7
2	1	1	2	1	5.66 E+7
2	2	1	2	1	5.99 E+7

Main Steam Line Flow

- I) Atmospheric Dump Valves (1 per line): Each 1.33 E+4 cc/sec  
 II) Each S/G safety relief valve (four per steam line): 1.1 E+5 cc/sec each  
 III) Exhaust from Each Aux Feed Pump: 3.4 E+3 cc/sec each  
 IV) IF time and data permits, THEN average the flow as shown below, ELSE assume a constant flow rate.

Main Steam Line Flow Averaging Method					
Pathway cc/sec	X	Amount of OPEN time, sec or min Averaging Period: 1800 sec or 30 min	=	Average cc/sec	
_____	X	_____	=	_____ cc/sec	
cc/sec					

## ATTACHMENT 3

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## RADIOACTIVE RELEASE WORKSHEET

## Part B - Effluent Monitor Data Worksheet

1. Date: \_\_\_\_\_ and Time \_\_\_\_\_ of Data, Unit \_\_\_\_\_
2. Ask the Emergency Coordinator for the following:
  - a. Accident Type: \_\_\_\_\_
  - b. Potential Duration of Release (if unknown, use default): \_\_\_\_\_ hours
  - c. Is the core overheating/melting? (circle): **YES** **NO**
3. **IF** the core is overheating or melting, **THEN** Particulate Factor (PF) = 4.4, else PF = 1.0; enter PF
4. Enter the monitor readings for the affected pathways in the table of Step 7:
  - a. SPING-4 reading (already averaged) preferred over R-14, R-15.
  - b. **IF** using R-14, R-15, **THEN** estimate the four chart points over prior 15 minutes.
  - c. **IF** using DAM-1 (already averaged), **THEN** multiply the reading by the number of S/Gs feeding monitor:  
 DAM-1  $\mu\text{Ci/cc}$  \_\_\_\_\_ x \_\_\_\_\_ S/Gs being monitored = \_\_\_\_\_  
 (DAM-1 value for Step 7)
5. Determine pathway flow in cc/sec for  $\uparrow$  plant  $\uparrow$  vent and  $\uparrow$  steam  $\uparrow$  lines (if affected).
  - a. For Plant Vent; calculate as shown below:  
 Plant vent channel 10 flowrate (cfm) x 472 = plant vent flowrate (cc/sec)  
 \_\_\_\_\_ PV Chl 10 X 472 = \_\_\_\_\_ PV (cc/sec)  
**IF** Plant Vent Sping Ch. 10 data is not available, **THEN** use the Plant Vent Fan Configuration Table on Page 4 of 6.
  - b. For Main Steam Lines, refer to Page 4 of 6.
6. Enter the Iodine Release Rate Factor (IRRF) in to the table below, Factors listed on Page 4 of 6.
7. Calculate Release Rates:

Pathway	Monitor Reading	x Cal x	Flow cc/sec x	$\mu\text{Ci to Ci} =$	Noble Gas Rel. Rate	x IRRF =	Iodine Rel. Rate
Plant Vent	R-14	5 E-9		1 E -6			
	SPING	1.0		1 E -6			
Main Steam	DAM-1	1.0		1 E -6			
Cond Air Ejector	R-15	2.47E-8	1.42E 4	1 E -6			
	SPING	1.0	1.42E 4	1 E -6			
#3 SFP Vent	SPING	1.0	9.43E 6	1 E -6			

8. Calculate Site Release Rate:

Total the Release Rates using this Worksheet		/////	
Enter other Release Rates (e.g., CHRRM/Other Unit)		/////	
Add to obtain Site Release Rate		/////	

9. Enter the Site Release Rates in Attachment 2.
  - a. Place a check on the blank to the left of Effluent Mon in Line B to indicate this method.
  - b. Enter the Noble Gas Release Rate into Line 8.
  - c. Enter the Iodine Release Rate into Line 1.
  - d. Enter the Duration (if 2 affected units, use longest) into Line 6 and Line 17.
  - e. Enter the PF (Particulate Factor) (if 2 affected units, use largest) into Line 11.
10. This worksheet is done, follow the instructions on Attachment 2.

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**ATTACHMENT 3**  
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**RADIOACTIVE RELEASE WORKSHEET**

**Part B - Effluent Monitor Data Worksheet**

**Iodine Release Rate Factors (IRRF)**

<u>Plant Condition</u>	<u>IRRF</u>
LOCA and Emergency Containment Filter(s) in use	0.011
LOCA and Emergency Containment Filter(s) not in use	0.063
Fuel Handling	0.001
Steam Generator Tube Rupture	6.8E-4
Waste Gas Decay Tank or VCT release	1E - 06

**Plant Vent Exhaust Fan Configuration Table**

CONTAINMENT PURGE	AUXILIARY BUILDING	SPENT FUEL PIT	RADWASTE BUILDING	LAUNDRY SYSTEM	PLANT VENT FLOW cc/sec
0	0	1	2	1	1.45 E+7
0	1	1	2	1	3.82 E+7
0	2	1	2	1	4.31 E+7
1	1	1	2	1	4.74 E+7
1	2	1	2	1	5.07 E+7
2	1	1	2	1	5.66 E+7
2	2	1	2	1	5.99 E+7

**Main Steam Line Flow**

- I) Atmospheric Dump Valves (1 per line): Each 1.33 E+4 cc/sec  
 II) Each S/G safety relief valve (four per steam line): 1.1 E+5 cc/sec each  
 III) Exhaust from Each Aux Feed Pump: 3.4 E+3 cc/sec each  
 IV) **IF** time and data permits, **THEN** average the flow as shown below, **ELSE** assume a constant flow rate.

<b>Main Steam Line Flow Averaging Method</b>				
Pathway cc/sec	X	Amount of OPEN time, sec or min Averaging Period: 1800 sec or 30 min	=	Average cc/sec
_____	x	_____	=	_____cc/sec
cc/sec				

## ATTACHMENT 3

(Page 5 of 6)

## RADIOACTIVE RELEASE WORKSHEET

## Part C - Containment High Range Radiation Monitor (CHRRM) Data Worksheet

(If both units are using this method, then complete one worksheet for each unit)

1. Date and time of data: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_
2. Ask the Emergency Coordinator for the following:
  - a. Is the core overheating/melting? (circle): **YES** **NO**
  - b. Potential Duration of Release (if unknown, use default): \_\_\_\_\_ hours
3. **IF** the core is overheating or melting, **THEN** Particulate Factor (PF) = 4.4, else PF = 1.0; enter PF \_\_\_\_\_
4. Obtain: Highest CHRRM reading: \_\_\_\_\_ R/hr, Elapsed time since Reactor Trip: \_\_\_\_\_ hours
5. **IF** using the pre-planned CHRRM alternate, estimate the CHRRM value:  
Alternate \_\_\_\_\_ R/hr x 1.3E+4 = \_\_\_\_\_ estimated CHRRM
6. Using the Elapsed Time, select the Conversion Factor (CF), from the table below, for use in Step 7.

Elapsed Time, Hr	Conversion Factor	Elapsed Time, Hr	Conversion Factor
ET = 0	1.6 E-6	2.0 < ET ≤ 4.0	9.0 E-6
0 < ET ≤ 0.5	2.2 E-6	4.0 < ET ≤ 8.0	1.8 E-5
0.5 < ET ≤ 1.0	3.2 E-6	8.0 < ET	4.8 E-5
1.0 < ET ≤ 2.0	5.0 E-6		

7. CHRRM \_\_\_\_\_ R/hr X CF \_\_\_\_\_ = \_\_\_\_\_ (CFA) (1) for use in Steps 9 and 11.
8. Determine Noble Gas Reduction Factor (NGRF), from Table; NGRF= \_\_\_\_\_, for use in Step 9.

et	NGRF	et	NGRF	et	NGRF	et	NGRF
0	1.0	>4 to ≤5	0.44	>9 to ≤10	0.26	>14 to ≤15	0.16
>0 to ≤1	0.90	>5 to ≤6	0.39	>10 to ≤11	0.23	>15 to ≤16	0.14
>1 to ≤2	0.70	>6 to ≤7	0.35	>11 to ≤12	0.21	>16 to ≤17	0.14
>2 to ≤3	0.6	>7 to ≤8	0.32	>12 to ≤13	0.19	>17 to ≤18	0.14
>3 to ≤4	0.5	>8 to ≤9	0.28	>13 to ≤14	0.18	>18	0.13

9. Calculate: \_\_\_\_\_ (CFA) X \_\_\_\_\_ (NGRF) X 10.2 Ci/sec = \_\_\_\_\_ Noble Gas Release Rate, Ci/sec.
10. **IF** the Emergency Containment Filter(s) IS in use, **THEN** (ICV)<sup>(2)</sup> = 0.11; if NOT in use, then (ICV)<sup>(2)</sup> = 0.63.
11. Calculate: \_\_\_\_\_ (CFA) X \_\_\_\_\_ (ICV) = \_\_\_\_\_ Iodine Release Rate, Ci/sec.
12. Calculate Site Release Rate, Ci/sec:

	Noble Gas	Iodine
a. Enter the Release Rates determined from this Worksheet		
b. <b>IF</b> the other unit is AFFECTED, <b>THEN</b> enter its release rates		
c. Add 12.a and 12.b to obtain Site Release Rates		

13. Enter the Site Release Rates in Attachment 2.
  - a. Place a check in the blank to the left of CHRRM in Line B to indicate this method.
  - b. Enter the Noble Gas Release Rate into Line 8.
  - c. Enter the Iodine Release Rate into Line 1.
  - d. Enter the Duration (if two affected units, use longest) into Line 6.
  - e. Enter the PF (Particulate Factor) (if two affected units, use largest) into Line 11.

14. This worksheet is done, follow the instructions on Attachment 2.

## Footnotes:

- (1) CFA = Core Fraction Airborne; decimal fraction of total inventory assumed to be in the containment atmosphere.
- (2) ICV = Iodine Conversion Value: A factor that includes containment default leak rate to determine the iodine release rate.

### ATTACHMENT 3

(Page 6 of 6)

### RADIOACTIVE RELEASE WORKSHEET

#### Part D - Default Values for Radioactive Releases

1. Default data is listed by accident type.
  - a. For the accident type and plant conditions, select the default data.
  - b. Copy the default data to the selected worksheet in Attachment 2.
    - I. Iodine Release Rate to Line 1
    - II. Noble Gas Release Rate to Line 8
    - III. Particulate Factor (PF) to Line 11
  - c. Place a check in the blank to the left of default on Line B on the selected worksheet in Attachment 2.
2. This worksheet is done, follows the instructions on the selected worksheet in Attachment 2.

#### LOSS OF COOLANT ACCIDENT (LOCA)

Compare hours after reactor trip to table below; see Attachment 4 for methods to adjust these values based on known plant conditions.

<u>Hours post-trip</u>	<u>Duration</u>	<u>Iodine Ci/sec</u>	<u>Noble Ci/sec</u>	<u>PF</u>
0 to 2	2 hours	0.11	10.2	4.4
>2 to 8	2 hours	0.06	5.4	4.4
more than 8	2 hours	0.02	1.6	4.4

#### STEAM GENERATOR TUBE RUPTURE (SGTR)

Use the listed values until the affected generator is isolated; see Attachment 5 for methods to adjust the values based on known plant conditions.

<u>Duration</u>	<u>Iodine Ci/sec</u>	<u>Noble Gas Ci/sec</u>	<u>PF</u>
1/2 hour	0.0042	6.2	1.0

#### FUEL HANDLING

Multiply the below listed release rates by the number of known/estimated damaged fuel bundles:

<u>Duration</u>	<u>Iodine Ci/sec</u>	<u>Noble Gas Ci/sec</u>	<u>PF</u>
1/4 hour	0.0047	17.0	1.0

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**ATTACHMENT 4**  
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**LOCA RELEASE RATE DETERMINATIONS WORKSHEET**

Provides methods to adjust or replace the LOCA default release rates based on known plant parameters. Guidance is provided for coping with containment failure releases, either rapid depressurization or estimated penetration size failure.

**NOTE**

*The following methods are provided for guidance. Conditions may warrant an approach different than shown; use the factors presented here and elsewhere in this procedure, as necessary, to estimate releases. Document the calculations in the applicable facilities logbook.*

It must be understood that the methodology provided in Attachment 4 includes conservative assumptions, and is intended to provide a means to estimate an upper bound to the release, not an exact release rate.

This Attachment has three methods (LOCA-1 to LOCA-3), select the one that most closely matches the conditions listed below:

**IF** the CHRRM is operational **AND** containment integrity is not good **AND** an equivalent penetration diameter (0.25 to 2 inches) leak has been postulated, **THEN** a release rate can be estimated using the CHRRM method and LOCA-1.

**NOTE**

*The next two methods are in response to a rapid decrease in containment pressure or rapid decrease in the CHRRM reading that was determined, by Operations or Engineering, not due to changes in equipment operation (e.g., additional containment sprays, coolers, etc.).*

**IF** the CHRRM is operational **AND** containment pressure appears to have rapidly (~30 min.) fallen **AND** the CHRRM reading also fell during the same period as the pressure fall, **THEN** a release rate can be estimated using LOCA-2.

**IF** the CHRRM is operational **AND** containment pressure appears to have rapidly (~30 min.) fallen **AND** the CHRRM reading was either constant or increased during the same period as the pressure fall **AND** the percent (%) mass lost can be estimated, **THEN** a release rate can be estimated using LOCA-3.



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**ATTACHMENT 4**  
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**LOCA RELEASE RATE DETERMINATIONS WORKSHEET**

**Method LOCA-1**

Use this method **IF** the CHRRM is operational **AND** containment integrity is not good **AND** an equivalent penetration diameter leak has been postulated.

**METHOD:** DATE: \_\_\_\_\_, TIME: \_\_\_\_\_, Unit: \_\_\_\_\_

- Determine the release rates using the CHRRM worksheet, copy the noble gas and iodine release rates to line 4a and 4b, respectively.
- Enter the equivalent penetration diameter: \_\_\_\_\_ inches  
and the containment pressure: \_\_\_\_\_ PSIG
- From the table below, find and enter the release multiplier on line 4a and 4b.

Pen. dia. (inches)	Containment Pressure (if psig is between values, use next highest)			
	5 psig	10 psig	25 psig	50 psig
0.25	5.5	8	14	23
0.50	16	23	46	75
0.75	36	50	83	140
1.00	57	92	150	250
1.25	100	150	250	400
1.50	160	225	375	600
1.75	225	300	500	825
2.00	275	400	650	1000

- Calculate Estimated Release Rate:

	(CHRRM method)		(multiplier)		(Estimated Release Rates)
a. Noble Gas	_____ Ci/sec	x	_____	=	_____ Noble Gas, Ci/sec
b. Iodine	_____ Ci/sec	x	_____	=	_____ Iodine, Ci/sec

- Enter the Estimated Release Rates into the previously selected Dose Calculation Worksheet (enter **LOCA-1** next to **Attachment** as method), or enter release rates as **Direct entry** if using the computer, to estimate Off-site doses.

-----

**Basis:** Multipliers are a ratio of the flow rates from engineering letter JPEPTPO-85-74, Figure XIII A, to the design basis flow (0.25%/day of 1.5E6 ft<sup>3</sup> ->1229 cc/sec)

## ATTACHMENT 4

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## LOCA RELEASE RATE DETERMINATIONS WORKSHEET

## Method LOCA - 2

Use this method IF the CHRRM is operational AND containment pressure appears to have rapidly (~30 min.) fallen AND the CHRRM reading also fell during the same period as the pressure fall.

## NOTES

- A CHRRM drop of about 3 percent per hour may be due to radiological decay.
- The CHRRM may drop by as much as 10 percent very quickly if containment spray is actuated, due to iodine washout.

## METHOD:

1. Date and time of starting this worksheet: \_\_\_\_\_ / \_\_\_\_\_, Unit \_\_\_\_\_
2. Calculate Delta-CHRRM:  
Start CHRRM \_\_\_\_\_ - End CHRRM \_\_\_\_\_ = \_\_\_\_\_ Delta-CHRRM, R/hr
3. Calculate Duration:
  - a. Clock Time End \_\_\_\_\_ - Clock Time Start \_\_\_\_\_ - \_\_\_\_\_ Delta-Clock  
(hours and/or minutes)
  - b. Convert Delta-Clock to Delta-Seconds: \_\_\_\_\_ Δ sec
4. Estimate Curies Lost:  
Delta-CHRRM \_\_\_\_\_ R/hr x 565 Ci N.G. per R/hr = \_\_\_\_\_ Noble Gas Curies Lost
5. Estimate Noble Gas Release Rate (loss rate):  
Noble Gas Curies lost \_\_\_\_\_ + \_\_\_\_\_ D sec = \_\_\_\_\_ Noble Gas Ci/sec
6. Estimate the Iodine Release Rate (IRRF = Iodine Release Rate Factor, see Page 2 of Attachment-3):  
N.G. Ci/sec \_\_\_\_\_ x \_\_\_\_\_ (IRRF) = \_\_\_\_\_ Iodine Ci/sec
7. Enter the Estimated Release Rates into the previously selected Dose Calculation Worksheet (enter LOCA-2 next to Attachment as method), or enter release rates as Direct entry if using the computer, to estimate Off-site doses.

## Basis:

Assumes CHRRM responding only to noble gas  
 Assumes rate of curies from core << curies lost through leak  
 $6.25 \text{ E}+5 \text{ R/hr} = 100\% \text{ core inventory noble gas } (1+C_{T=0}, \text{ CF from 21026 CHRRM method})$   
 $3.53 \text{ E}+8 \text{ curies} = 100\% \text{ core inventory noble gas (PTN UFSAR)}$   
 $565 = 3.53 \text{ E}+8 \text{ Ci} + 6.26 \text{ E}+5 \text{ R/hr}$

## ATTACHMENT 4

(Page 4 of 5)

## LOCA RELEASE RATE DETERMINATIONS WORKSHEET

## Method LOCA - 3

Use this method IF the CHRRM is operational AND containment pressure appears to have rapidly (~30 min.) fallen AND the CHRRM reading was either constant or increased during the same period as the pressure fall AND the percent mass lost can be estimated.

**NOTE**

The percent mass lost is estimated on Page 5 of Attachment 4.

**METHOD:**

1. Date and time of starting this worksheet: \_\_\_\_\_ / \_\_\_\_\_
2. Calculate average CHRRM reading (if CHRRM was constant, enter reading as Avg.)  
(Start CHRRM \_\_\_\_\_ + End CHRRM \_\_\_\_\_) ÷ 2 = \_\_\_\_\_ Avg CHRRM, R/hr
3. Estimate Noble Gas Curies in the containment:  
Avg CHRRM R/hr \_\_\_\_\_ x 565 Ci N.G. per R/hr = \_\_\_\_\_ Noble Gas Curies in ctmt
4. Calculate Duration:
  - a. Clock Time End \_\_\_\_\_ - Clock Time Start \_\_\_\_\_ = \_\_\_\_\_ Delta-Clock  
(hours and or minutes)
  - b. Convert Delta-Clock to Delta-Seconds: \_\_\_\_\_ Δsec
5. Estimate Curies Lost:  
N.G. Curies in ctmt \_\_\_\_\_ x \_\_\_\_\_ % mass lost ÷ 100 = \_\_\_\_\_ Noble Gas Curies Lost
6. Estimate Noble Gas Release Rate (loss rate):  
Noble Gas Curies lost \_\_\_\_\_ ÷ \_\_\_\_\_ Δ sec = \_\_\_\_\_ Noble Gas Ci/sec
7. Estimate the Iodine Release Rate (IRRF = Iodine Release Rate Factor, see Page 2 of Attachment 3):  
N.G. Ci/sec \_\_\_\_\_ x \_\_\_\_\_ (IRRF) = \_\_\_\_\_ Iodine Ci/sec
8. Enter the Estimated Release Rates into the previously selected Dose Calculation Worksheet (enter LOCA-3 next to Attachment as method), or enter release rates as Direct entry if using the computer, to estimate Off-site doses.

Basis: Assumes rate of curies from core = curies lost through leak (constant CHRRM), or assumes rate of curies from core > curies lost through leak (increasing CHRRM), and same remaining assumptions as in LOCA-2.

## ATTACHMENT 4

(Page 5 of 5)

## LOCA RELEASE RATE DETERMINATIONS WORKSHEET

## ESTIMATE OF CONTAINMENT % MASS LOST

## 1. Purpose

The purpose of this calculation is to provide a method to estimate containment % mass release to the environment during a post-LOCA containment depressurization transient (containment burp).

## 2. Discussion

- A. The dose assessment group can use the containment mass release data to estimate the radiation release to the environment, using this attachment, provided the containment radiological conditions are known.
- B. The containment depressurization event should be large (greater than 5.0 psi change), over a short period of time, since the methodology does not accurately credit the effect of containment heat removal systems.

## 3. Acquire the following data:

NOTES

- The time span for data observation should be the same as used for the calculation on Attachment 4, Method LOCA-3.
- Density is mass per unit volume and is symbolized by the unit rho ( $\rho$ )

A. Containment Pressure just before blowdown transient: \_\_\_\_\_ psig {Pstart}

B. Containment Temperature just before blowdown transient: \_\_\_\_\_ deg F {Tstart}

C. Containment Pressure just after blowdown transient: \_\_\_\_\_ psig {Pend}

D. Containment Temperature just after blowdown transient: \_\_\_\_\_ deg F {Tend}

## 4. Estimate Initial Containment Atmosphere Density (pinit):

$$\frac{144 \times (14.7 + \text{Pstart})}{53.3 \times (460 + \text{Tstart})} = \text{pinit}$$

## 5. Estimate End Containment Atmosphere Density (pend):

$$\frac{144 \times (14.7 + \text{Pend})}{53.3 \times (460 + \text{Tend})} = \text{pend}$$

## 6. Estimate % Mass Lost:

$$\left( 1 \text{ Minus } \left( \frac{\text{pend}}{\text{pinit}} \right) \right) \times 100 = \text{ \% mass lost}$$

## ATTACHMENT 5

(Page 1 of 5)

## STEAM GENERATOR TUBE RUPTURE WORKSHEET

## SGTR Release Rate Determinations

Use this method to either estimate release rates or modify the Default release rates for a Steam Generator Tube Rupture Accident.

The default release rate is based on:

1. Complete break of one tube at the tube sheet, which is under water; that is the S/G is NOT considered uncovered (level > 6% NR)
  2. 553 gpm primary to secondary leak rate (average over 30 minute accident period).
  3. 1 percent failed fuel.
- and
4. 100 percent of the noble gas in the RCS discharged to the steam generator is released to the atmosphere.
  5. 1 percent of the iodine in the RCS discharged to the steam generator is released to the atmosphere.

**NOTE**

*The following methods are provided for guidance. Conditions may warrant an approach different than shown; use the factors presented here and elsewhere in this procedure, as necessary, to estimate releases. Document the calculations.*

**IF** any, or all, of the first three default basis are known to be different than stated above, **THEN** adjust the default release rate by using method SGTR-1.

**IF** RCS grab sample results, and 1° - 2° leak rate are known, **THEN** estimate the release rate using method SGTR-2.

**IF** secondary concentrations and steaming rates are known, **THEN** estimate the release rate using method SGTR-3.

Basis for Attachment 5:

553 gpm leak rate in SGTR-1 =  $((1.03E+5 \text{ lbm (FSAR)} / 46.3 \text{ lbm/ft}^3) * 7.48 \text{ gal/ft}^3) / 30 \text{ min}$   
 p-mod = partition factor modifier, Westinghouse Study on effect of rupture site not covered by water indicates about a 4.6 times higher iodine release rate.  
 $6.3E-5 = 1E-6 \text{ Ci/uCi} \times 3785 \text{ cc/gal} / 60 \text{ sec min}$   
 $0.126 = (\text{lbm/hr} \times 453.6 \text{ gram/lbm}) / (1 \text{ gram/cc liquid} * 3600 \text{ sec/hr})$   
 addn1 ref: UFSAR analysis and JPE-LR 87-033 (ref Substep 2.1.3.7)

## ATTACHMENT 5

(Page 2 of 5)

## STEAM GENERATOR TUBE RUPTURE WORKSHEET

## Method SGTR-1

INSTRUCTIONS:

## 1. VERIFY AND RECORD INFORMATION:

- a. Date: \_\_\_\_\_ and Time: \_\_\_\_\_ of data, for Unit: \_\_\_\_\_
- b. Duration of Release per EC \_\_\_\_\_ hours (SGTR default = 0.5 hours; PF = 1.0)
- c. Percent of failed fuel: \_\_\_\_\_ [Default is 1%]
- d. Primary leak data, get both if possible:  
 Number of failed tubes \_\_\_\_\_ [Default is 1]  
 Leak Rate \_\_\_\_\_ [Default is 553 gpm]
- e. Affected S/G narrow range level \_\_\_\_\_ %

## 2. Determine primary leak rate flow modifier

- a. Estimated pri - sec leakrate if available (gpm) \_\_\_\_\_ DIVIDED BY 553 = \_\_\_\_\_
- b. Flow mod is the larger of Number of Failed Tubes or value calculated in Step 2a

3. For Iodine only, IF S/G level <6% NR, THEN p-mod = 5, ELSE p-mod = 1 (circle one)

## 4. Adjust the default release rates:

	Default Ci/sec	x flow mod x	% failed fuel x	p-mod	=	Release rate Ci/sec
Noble Gas	6.2	_____	_____	1		
Iodine	4.2 E-3	_____	_____			

5. IF performing manual calculations following this procedure, THEN enter the release rate estimated from this method into the dose calculation process.
- a. On the applicable worksheet in Attachment 2, Step B (Release rate determined by:) enter SGTR-1 on the line for Attachment.
6. If performing calculations using the computer program, use the Direct Entry source term option.

## ATTACHMENT 5

(Page 3 of 5)

## STEAM GENERATOR TUBE RUPTURE WORKSHEET

## Method SGTR-2

Use this method if RCS grab sample results and 1° - 2° leak rate are known

INSTRUCTIONS:

## 1. VERIFY AND RECORD INFORMATION:

- a. Date: \_\_\_\_\_ and Time: \_\_\_\_\_ of data, for Unit: \_\_\_\_\_
- b. Duration of Release per EC \_\_\_\_\_ hours (SGTR default = 0.5 hours; PF = 1.0)
- c. RCS Gross Noble Gas Activity: \_\_\_\_\_ uCi/cc
- d. RCS I-131 DEQ activity: \_\_\_\_\_ uCi/cc
- e. Affected S/G narrow range level \_\_\_\_\_ %

## 2. PERFORM CALCULATIONS

ONLY FOR IODINE: IF S/G level < 6% NR, THEN p-mod = 5, ELSE p-mod = 1

	RCS activity 1° - 2° uCi/sec	x flow gmp	x partion	x p-mod	unit x conversion	Release rate = Ci/sec
Noble Gas			1	1	6.3 E-5	
Iodine			0.01		6.3 E-5	

3. IF performing manual calculations following this procedure, THEN enter the release rate estimated from this method into the dose calculation process.
  - a. On the applicable worksheet in Attachment 2, Step B (Release rate determined by:) enter SGTR-2 on the line for Attachment.
4. If performing calculations using the computer program, use the Direct Entry source term option.

## ATTACHMENT 5

(Page 4 of 5)

## STEAM GENERATOR TUBE RUPTURE WORKSHEET

## Method SGTR-3

Use this method if secondary concentrations and steaming rates are known

## 1. VERIFY AND RECORD INFORMATION:

- a. Date: \_\_\_\_\_ and Time: \_\_\_\_\_ of data, for Unit: \_\_\_\_\_
- b. Duration of Release per EC \_\_\_\_\_ hours (SGTR default = 0.5 hours; PF = 1.0)
- c. Secondary Steaming Rate: \_\_\_\_\_, \_\_\_\_\_ (units; e.g., lbm/hr)
- d. Secondary Gross Noble Gas Activity: \_\_\_\_\_ uCi/cc liquid sample, for use in Step 4
- e. Secondary I-131 DEQ activity: \_\_\_\_\_ uCi/cc liquid sample, for use in Step 4
- f. Affected S/G narrow range level \_\_\_\_\_ %

## 2. Convert Steaming Rate to cc/sec liquid equivalent release rate

IF in lbm/hr: \_\_\_\_\_ lb/hr x 0.126 = \_\_\_\_\_ cc (liquid)/sec

IF in lbm/sec: \_\_\_\_\_ lb/sec x 454 = \_\_\_\_\_ cc (liquid)/sec

IF in volumetric units (e.g., Ft<sup>3</sup>/time, THEN get Engineering to calculate liquid rates)

3. For Iodine only, IF S/G level <6% NR, THEN p-mod = 5, ELSE p-mod = 1  
(circle selected p-mod)

## 4. Estimate the release rates:

	Sec activity μCi/cc	x Steaming Rate, cc/sec	x p-mod	x partition	x μCi to= Ci	Estimated Release Rates, Ci/sec
Noble Gas			1	10	1 E-6	
Iodine				0.01	1 E-6	

5. IF performing manual calculations following this procedure, THEN enter the release rate estimated from this method into the dose calculation process.

- a. On the applicable worksheet in Attachment 2, Step B (Release rate determined by:) enter SGTR-3 on the line for Attachment.

## 6. If performing calculations using the computer program, use the Direct Entry source term option.



## ATTACHMENT 5

(Page 5 of 5)

## STEAM GENERATOR TUBE RUPTURE WORKSHEET

## Method SGTR-3

Use this method if gamma survey meter contact readings of the main steam line are known

## 1. VERIFY AND RECORD INFORMATION:

a. Date: \_\_\_\_\_ and Time: \_\_\_\_\_ of data, for Unit: \_\_\_\_\_

Ask Emergency Coordinator

b. Duration of Release \_\_\_\_\_ hours (Default = 0.5)

c. Is the core over heating or melting: \_\_\_\_\_ (Yes or NO)

IF the core IS NOT overheating or melting, THEN MF = 2.4 E-2 AND PF = 1

IF the core IS overheating or melting, THEN MF = 2.1 E-3 AND PF = 4.4

2. Enter the main Steam Line Survey Meter Reading: \_\_\_\_\_ mr/hr

3. Enter the MF determined in Step 1.c \_\_\_\_\_ Noble Gas uCi/cc per mr/hr

4. Multiply line 2 and 3, place result here → \_\_\_\_\_ Noble Gas uCi/cc

5. Enter the Steam Line Flow Rate, see Values below \_\_\_\_\_ cc/sec

6. Multiply lines 4 and 5, \_\_\_\_\_ Noble Gas uCi/sec

7. Multiply line 6 by 1E-6, to estimate the \_\_\_\_\_ Noble Gas Ci/sec

8. Multiply line 7 by 6.8E-4 to estimate the \_\_\_\_\_ Iodine Ci/sec

9. IF performing manual calculations following this procedure, THEN enter the release rate estimated from this method into the dose calculation process.

a. On the applicable worksheet in Attachment 2, Step B (Release Rate determined by:) enter SGTR-4 on the line for Attachment.

10. If performing calculations using the computer program, use Direct Entry source term option

Main Steam Line Flow Rate Values

- I. Atmospheric Dump Valves (3): EACH 1.33 E+4 cc/sec, 4.0 E+4 IF all three
- II EACH S/G safety relief valve (4 per steam line): 1.1 E+5 cc/sec each
- III Exhaust from EACH Aux Feed Pump: 3.4 E+3 cc/sec
- IV IF time and data permits, THEN average the flow as shown in Attachment 3

## ATTACHMENT 6

(Page 1 of 2)

## FIELD TEAM MEASUREMENTS ASSESSMENT

This attachment provides methods to estimate a release rate from field team survey meter measurements and provides guidance on comparing field measurements to dose projections.

RELEASE RATE ESTIMATION

1. Date \_\_\_\_\_ and time \_\_\_\_\_ of starting this worksheet:

NOTE

*Survey meter Gamma (CLOSED WINDOW) results must be from plume centerline; that is, the maximum value from a lateral transverse of the plume.*

2. IF the survey meter measurement was at 1 mile value, THEN go to Step 4.
3. Estimate the 1 mile value:
- Estimated 1 mile value = Survey meter results x (downwind distance, miles)<sup>Z</sup>
- Where the exponent Z = 2 for Stability Class A, B  
1.5 for Stability Class C, D  
1.0 for Stability Class E, F, G
- \_\_\_\_\_ mr/hr x (\_\_\_\_\_ miles)<sup>(\_\_\_\_Z)</sup> = \_\_\_\_\_ Estimated 1 mile mr/hr  
meter results downwind distance
4. Select the Dose Calculation Worksheet (DCW) for the met conditions at time of sampling.
- a. Use Wind Speed in Miles Per Hour, mph
- b. Copy from Line 13, the 1 mile Noble Gas Dose Factor (NGDF) for use in Step 5.
5. Estimate Noble Gas Release Rate (the Dose Calculation Worksheet in reverse):
- \_\_\_\_\_ mr/hr / \_\_\_\_\_ x \_\_\_\_\_ mph = \_\_\_\_\_ NG Ci/sec  
estimate 1 mile divide NGDF wind speed

6. Estimate Iodine Release Rate (IRRF = Iodine Release Rate Factor, see Page 2 of Attachment 3):

NOTE

*A similar process to that used to determine noble gas Ci/sec may be used to estimate an iodine release rate. Substitute field estimated Thyroid Dose Rate in Step 3, substitute the Iodine Dose Factor (Dose Calc Worksheet line 4 value) for the NGDF in Step 5.*

$$\frac{\text{NG Ci/sec}}{(\text{IRRF})} = \text{Iodine 131 DEQ Ci/sec}$$

7. Utilize the current meteorological conditions and appropriate Dose Calculation Worksheets (enter 6 next to Attachment as method), or enter release rates as Direct if using the computer, to estimate Off-site Doses from this attachment.

## ATTACHMENT 6

(Page 2 of 2)

## FIELD TEAM MEASUREMENTS ASSESSMENT

## Comparing Field Measurements to Dose Projections

NOTES

- Reasonable comparison between Field Measurements and Dose Calculations is if the two are within an order of magnitude. Too many assumptions preclude better precision.
- A survey team measurements off centerline will yield a low estimated release rate. The Field Monitoring Coordinator (EOF) has a method for estimating centerline values for these situations.

Survey Meter DDE Readings

The computerized dose calculation program estimates the survey meter reading DDE and for the pre-designated sampling locations (refer to Field Survey Map for descriptions of the locations). This Survey Meter Estimate is sum of immersion in plume of noble Gas, and plume shine from iodine and particulates. The noble gasses are the majority of the exposure source. The program adjusts for gap versus core mix of noble gasses in response to the Core Damage Situation question.

The manual method does not calculate a DDE from immersion in noble gas. Referring to a Dose Calculation Worksheet apropos to the met conditions, a value could be estimated by multiplying the value calculated on line 10 by the Dose Factors listed on line 13. These Dose Factors are based on a core mix of noble gasses, and include the X/Q for the prevailing meteorological conditions.

Thyroid CDE

Thyroid dose projections, both procedure and computer, area based on a release of I-131 DEQ Ci/sec. The field teams measure I-131 in the plume; their procedure has a time dependent factor to account for the dose from the other iodines. The factor starts at about 1.4 and decays to 1 over about 24 hours.

Dividing projected thyroid dose rate, mr/hr, by  $1.3E + 9$  will estimate the Iodine 131 DEQ concentration uCi/cc.

Time of Sample v. Time of Release

Time of field measurement minus (downwind distance, miles / wind speed, mph) will yield the time of the release rate estimated.

The computerized calculations use a time window 15 or 30 minutes long. Select the latest printout that has a Release Observation Time before the time estimated above.

Estimating Dose Rates or Concentrations at Other Distances (e.g., 1, 2, 5, 10 miles)

Estimated Value @ Dist x = Measured value times (DWD/Dist x)<sup>2</sup>  
 Where: DWD = Measurement downwind distance, miles  
 Dist x = other distance, miles  
 Z = exponent based on stability class  
 (ref EPA-520, Rev. 6/79, Page 5.10)

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Off-site Dose Calculations

Approval Date:

6/1/00

## ATTACHMENT 7

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## REPORTABLE QUANTITY (RQ) RADIOACTIVE RELEASE DATA SHEET

Brief description of the event: \_\_\_\_\_

Estimate of Quantity of Substance Released to environment:

Isotopes released; Quantity and RQ Limit:

<u>Nuclide</u>	<u>Curies</u>	<u>RQ Limit</u>	<u>Nuclide</u>	<u>Curies</u>	<u>RQ Limit</u>
<u>Cs-134</u>	_____	<u>1.0</u>	<u>I-133</u>	_____	<u>0.1</u>
<u>Cs-137</u>	_____	<u>1.0</u>	<u>Xe-133</u>	_____	<u>1000</u>
<u>Co-58</u>	_____	<u>10.0</u>	<u>Xe-135</u>	_____	<u>100</u>
<u>Co-60</u>	_____	<u>10.0</u>	_____	_____	_____
<u>I-131</u>	_____	<u>0.01</u>	_____	_____	_____

Time and Duration of release:

Start Date/Time: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_ Stop Date/Time: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Medium released to:

Liquid: a) Discharge Canal (Lake Warren): \_\_\_\_\_

b) Ground: \_\_\_\_\_

Airborne Gaseous: a) Wind Speed: \_\_\_\_\_ MPH

b) Wind Direction (from): \_\_\_\_\_ degree

c) Downwind Sector: \_\_\_\_\_

Any known or anticipated Acute or Chronic Health Risks (check one):

\_\_\_\_\_ YES \_\_\_\_\_ NO \_\_\_\_\_ Unable to provide information

Any advice regarding medical attention necessary for exposed individual:

0-EPIP-20126

Off-site Dose Calculations

Approval Date:

6/1/00

**ATTACHMENT 7**  
(Page 2 of 2)**REPORTABLE QUANTITY (RQ) RADIOACTIVE RELEASE DATA SHEET**

Any precautions to take as result of release:

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Names and telephone number of personnel to be contacted for further information:

Name: \_\_\_\_\_ Plant No. \_\_\_\_\_ Beeper No. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**NOTE***See ERD for associated phone numbers.*

Notifications made to:

## a. Nuclear Plant Supervisor

1) Date/Time: \_\_\_\_\_ / \_\_\_\_\_

2) Name of person given information: \_\_\_\_\_

## b. National Response Center

1) Date/Time: \_\_\_\_\_ / \_\_\_\_\_

2) Name of person given information: \_\_\_\_\_

## c. State Emergency Response Commission

1) Date/Time: \_\_\_\_\_ / \_\_\_\_\_

2) Name of person given information: \_\_\_\_\_

## d. Local Emergency Response Planning Committee (Community Emergency Coordinator)

1) Date/Time: \_\_\_\_\_ / \_\_\_\_\_

2) Name of person given information: \_\_\_\_\_

Completed by:

Name (Print/Initials): \_\_\_\_\_ / \_\_\_\_\_

Date/Time: \_\_\_\_\_ / \_\_\_\_\_

**FINAL PAGE**