

FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT UNITS 3 AND 4
EMERGENCY PROCEDURE 20101
MARCH 8, 1982

1.0 Title:

DUTIES OF EMERGENCY COORDINATOR

2.0 Approval and List of Effective Pages:

2.1 Approval:

Change dated 3/8/82 Reviewed by PNSC March 8, 1982

Approved by [Signature] Plant Mgr-Nuclear, March 8, 1982

Approved by [Signature] Vice President of
Nuclear Energy 3-8 1982

2.2 List of Effective Pages:

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3.0 Scope:

3.1 Purpose:

This procedure provides the guidelines to be followed by the Emergency Coordinator when an emergency occurs that requires initiation of the Emergency Plans.

3.2 Discussion:

The Nuclear Plant Supervisor becomes the Emergency Coordinator upon initiation of the Emergency Plans and, as such, directs the On-Site Emergency Organization to bring the emergency under control. A member of the plant management staff may assume the role of Emergency Coordinator when he reaches the Control Room and becomes familiar with the emergency. The Nuclear Plant Supervisor will then concentrate on control of the reactor.

3.3 Authority:

Turkey Point Plant Radiological Emergency Plan

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4.0 Precautions:

- 4.1 The Nuclear Plant Supervisor and the shift operating staff represent the first-line of response to any developing emergency condition. The primary responsibility of the Nuclear Plant Supervisor is to control the condition as well as possible. However, the success of the Emergency Plan and procedures requires prompt classification of the emergency (in accordance with Emergency Procedure 20103) and notifications of designated off-site authorities and the FPL Off-Site Emergency Organization.
- 4.2 The Emergency Coordinator may delegate his responsibilities at his discretion with the exception of the decision to notify state and local authorities and the recommendation of protective actions for the public (off-site).
- 4.3 During all exercises, drills or tests ALL messages should begin and end with "This is a Drill" or "This is an Exercise".
- 4.4 Protective action recommendations to State and Local authorities cannot be delegated by the Emergency Coordinator. However, these recommendations become the responsibility of the Recovery Manager when the EOF is manned and operational.

5.0 Responsibilities:

- 5.1 If the Nuclear Plant Supervisor is incapacitated, the Emergency Coordinator shall be (in order of succession):
 - 5.1.1 Nuclear Watch Engineer
 - 5.1.2 Any other member of the plant staff with a Senior Reactor Operator license.
 - 5.1.3 One of Nuclear Control Center Operators on shift.
- 5.2 The Emergency Coordinator shall only grant permission for watch relief, including his own, when the emergency condition is sufficiently under control to make it safe in his judgment to do so.
- 5.3 A member of the plant management staff may assume the duties of the Emergency Coordinator.

6.0 References

- 6.1 Turkey Point Plant Radiological Emergency Plan
- 6.2 Emergency Procedure 20103, Classification of Emergencies and Criteria for Evacuation
- 6.3 Emergency Procedure 20126, Loss of Coolant Accident Dose Calculations

7.0 Records and Notifications:

- 7.1 All significant information, events, and actions taken during the emergency period shall be recorded in the Nuclear Plant Supervisor's Log Book.

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8.0 Instructions:

- 8.1 Upon becoming aware of an off-normal condition, the Nuclear Plant Supervisor shall diagnose the condition and direct initial corrective action to control or mitigate the condition.
- 8.2 Then the Nuclear Plant Supervisor shall, using the tables in Emergency Procedure 20103, Classification of Emergencies, classify the condition and thereby determine if the condition constitutes an unusual event, alert, site area emergency, or general emergency. If the condition is an unusual event, alert, site area emergency, or general emergency, the Nuclear Plant Supervisor shall declare an emergency and become the Emergency Coordinator. The State Warning Point at the Bureau of Disaster Preparedness (BDP) shall be notified within fifteen minutes of the emergency declaration.
- 8.3 Then the Emergency Coordinator shall station himself in the Control Room and shall begin following the steps in the applicable attached checklist(s) (unusual event, alert, site area emergency, general emergency, fire or explosion, medical emergency).
- 8.4 The Emergency Coordinator may designate one or more persons to handle the offsite communications and notifications required in the checklists. The Emergency Coordinator shall designate a person to stay on the ENS circuit with the NRC until the NRC gives permission to hang up. The designated individuals may be from the operating shift, from plant staff, or from other available personnel.
- 8.5 The initial notification to BDP shall be made within fifteen minutes of the declaration of the emergency and shall be made by INAWAS. The initial notification shall include items of the Emergency Information Checklist.
- 8.6 Each of the checklists for an emergency (unusual event, alert, site area emergency, and general emergency) require notifying the Duty call Supervisor. This should be accomplished as follows:

The duty call supervisor for any given week will be indicated in a letter signed by the Plant Manager and available in the Control Room. Each duty call supervisor's telephone number will be listed in the letter.

If Duty Call Supervisor is not available at listed phone, place beeper call by dialing on any PTP Bell phone switchboard extension as follows: 8-102-119-892. When the beeper number is reached, there will be a series of high pitched tones in the telephone receiver that alerts the beeper carrier that a message is to be transmitted. When the high pitched tones cease, speak slowly and clearly into the telephone and tell the Duty Call Supervisor (by name) to call the Turkey Point Plant. Repeat message, then hang up the telephone.

EXAMPLE: "Joe Smith, call Turkey Point Plant - Joe Smith, call Turkey Point Plant"

If the Duty Call Supervisor does not call promptly, notify System Operations Power Coordinator and tell him to call the personnel on the Duty Call Supervisor's Call List.

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- 8.7 As the emergency progresses and additional information becomes available or as the situation changes, information applicable to the Emergency Information Checklist should be relayed by telephone, NAWAS, and/or Local Government Radio (LGR) to BDP and Dade County Civil Defense. If the Technical Support Center (TSC) is not staffed the information should be relayed by the Emergency Coordinator (EC) or a designated communicator.
- 8.8 The notification to NRC on the Emergency Notification System (ENS) shall be made within one hour of the declaration of the emergency and should contain, to the extent known, the information applicable to Appendix B of this procedure. Once the notification to the NRC via ENS is made, we are required by 10 CFR 50.72 to maintain an open channel of communication until the NRC grants permission to hang up. The EC shall designate an individual to maintain the open chain of communications as required.
- 8.9 When, during the course of the emergency, the seriousness of the condition changes so that the emergency fits into a different classification than it originally was reported as, the EC shall so notify the Emergency Control Officer (ECO), the BDP, and Dade County Civil Defense by telephone, NAWAS, and/or LGR. The notifications may be made by the TSC Supervisor or a designated communicator under the direction of the EC. When the condition is reclassified, the EC shall switch to the appropriate part of the checklist for the new classification.
- NOTE: This includes the case where a condition changes so that it no longer fits the classification of any emergency. In other words, when the condition is no longer an emergency, the ECO, the BDP and Dade County Civil Defense shall be so notified.
- 8.10 Responsibility for Off-site Communications and Coordination shall be relinquished to the Emergency Control Officer when he establishes contact and assumes responsibility.
- 8.11 The Emergency Coordinator is responsible for providing Protective Action Recommendations to off-site authorities as indicated on "Protective Action Recommendations Checklist". When the Emergency Control Officer has indicated that the EOF is manned and operational, the Recovery Manager can relieve the Emergency Coordinator of this responsibility.

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UNUSUAL EVENT CHECKLIST

Actions to be taken by Emergency Coordinator
in the event of an UNUSUAL EVENT

- _____ 1. Direct initial corrective action to mitigate the problem.
_____ Fire/Explosion - see attached Fire/Explosion Checklist and
Emergency Procedure 20107
_____ Medical - see attached Medical Emergency Checklist
- _____ 2. Direct Nuclear Watch Engineer to mobilize interim Emergency Teams to respond if necessary.
- _____ 3. [Complete the attached Emergency Information Checklist].
- _____ 4. Relay information to the Duty Call Supervisor (see NPS Bulletin Board for scheduled supervisor and telephone number). Direct him to notify the individuals on his call list in Emergency Procedure 20104, Emergency Roster. Alternate - see Paragraph 8.6 of this procedure.
- _____ 5. Within fifteen minutes of declaration of emergency, notify, by [NAWAS], the State Warning Point at the Bureau of Disaster Preparedness in [Tallahassee] and communicate Emergency Information Checklist data. Alternate numbers are 1-904-488-1320 and 1-904-488-5757.
- _____ 6. Within one hour notify NRC via ENS hot-line. Alternate numbers are 1-301-492-8111 and 1-301-492-7000. Use the attached Appendix B to make the notification. Do not hang up until the NRC gives permission.
- _____ 7. Reassess the Emergency Classification and update the Emergency Information Checklist, [and notify BDP via NAWAS if necessary].
- _____ 8. When the plant conditions no longer meet the definition of an unusual event or any other emergency condition, so notify the ECO and BDP by telephone.

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ALERT CHECKLIST (Page 1 of 2)

Actions to be taken by Emergency Coordinator
in the event of an ALERT

- _____ 1. Direct initial corrective action to mitigate the problem and bring the plant to a safe, stable condition.

_____ Fire/Explosion - see attached Fire/Explosion Checklist and
Emergency Procedure 20107

_____ Medical - see attached Medical Emergency Checklist

- _____ 2. If evacuation of an area is necessary, notify personnel of the emergency condition over the page system, initiate a local evacuation in accordance with Emergency Procedure 20109, Criteria For and Conduct of Local Evacuation. Announce the following:

Area Affected _____ Assembly Area _____

- _____ 3. Direct Nuclear Watch Engineer to mobilize interim Emergency Teams to respond as necessary.

- _____ 4. [Complete the attached Emergency Information Checklist].

- _____ 5. Relay information to the Duty Call Supervisor (see NPS Bulletin Board for scheduled supervisor and telephone number). Direct him to notify the individuals on his call list in Emergency Procedure 20104, Emergency Roster. Alternate - see paragraph 8.6 of this procedure.

- _____ 6. Within fifteen minutes of declaration of emergency notify, by [NAWAS], the State Warning Point at the Bureau of Disaster Preparedness in [Tallahassee] and communicate Emergency Information Checklist data. Alternate numbers are 1-904-488-1320 and 1-904-488-5757.

- _____ 7. [If the State Warning Point at the Bureau of Disaster Preparedness was not notified by NAWAS, then notify], by telephone, the Dade County Civil Defense Office in Miami (596-8700 or 911), and communicate Emergency Information Checklist data. Off hours, call 596-8176 or 911.

- _____ 8. [If the State Warning Point at the Bureau of Disaster Preparedness was not notified by NAWAS, then notify], by telephone, the Monroe County Disaster Preparedness office in Key West (1-294-9581), and communicate Emergency Information Checklist data. Off hours, call 1-296-2424.

- _____ 9. If local evacuation was conducted, verify from Security Team Leader that all personnel are accounted for.

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ALERT CHECKLIST (Page 2 of 2)

- _____ 10. Direct Shift Technical Advisor to activate the Technical Support Center.
- _____ 11. Activate the Operational Support Center.
- _____ 12. Within one hour notify NRC via ENS hot-line. Alternate numbers are 1-301-492-8111 and 1-301-492-7000. Use the attached Appendix B to make the notification. Do not hang up until the NRC gives permission.
- _____ 13. Reassess the Emergency Classification and update the Emergency Information Checklist, and notify BDP via NAWAS with updated off-site dose information.
- _____ 14. Brief the Technical Support Center Supervisor (normally Technical Department Supervisor) on events. Direct him to provide State and County with periodic updates.
- _____ 15. Reassess corrective and protective actions. Verify activities underway, reassign personnel and teams as necessary.
- _____ 16. Reassess the Emergency Classification and update the Emergency Information Checklist with Technical Support Center Supervisor.
- _____ 16. Relinquish control and communication responsibilities to the Emergency Control Officer if he activates the Off-Site Organization.
- _____ 17. When the plant conditions no longer meet the definition of an alert or any other emergency condition, so notify the ECO and BDP by telephone. This notification may be made by the TSC, at the EC's discretion.

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SITE AREA EMERGENCY CHECKLIST (Page 1 of 2)

Actions to be taken by Emergency Coordinator
in the event of SITE AREA EMERGENCY

- _____ 1. Order initial corrective action per Emergency Operating Procedures.
 _____ Fire/Explosion - See Attached Fire/Explosion Checklist and
 Emergency Procedure 20107
 _____ Medical - See Attached Medical Emergency Checklist
- _____ 2. If evacuation is necessary, notify personnel of the emergency condition
 over the PA system (crossconnect the page), giving location, class, and
 type of emergency, and order all non-essential personnel to commence
 evacuation of the Owner Controlled Area in accordance with Emergency
 Procedure 20110, Criteria for and Conduct of Owner Controlled Area
 Evacuation.
- _____ 3. If site evacuation is necessary, sound Site Evacuation Alarm.
- _____ 4. If site evacuation is necessary, repeat PA announcement.
- _____ 5. If site evacuation is necessary, order Security Team Leader to evacuate
 Owner Controlled Area and to report personnel accountability as soon as
 possible.
- _____ 6. Direct Nuclear Watch Engineer to mobilize other interim Emergency Teams
 as necessary.
- _____ 7. |Complete the attached Emergency Information Checklist|.
- _____ 8. Relay information to the Duty Call Supervisor (see NPS Bulletin Board
 for scheduled supervisor and telephone number). Direct him to notify
 the personnel on his call list in Emergency Procedure 20104, Emergency
 Roster. Alternate - see paragraph 8.6 of this procedure.
- _____ 9. Within fifteen minutes of declaration of emergency make NAWAS
 Announcement:
 "State Warning Point Tallahassee, this is Turkey Point."
 (State Warning Point will give a go-ahead)
|"State Warning Point Tallahassee, this is Turkey Point"|
|DELETED|
|Relay Emergency Information Checklist data|.
 "Acknowledge, over."
 (If NAWAS is inoperable call BDP at 1-904-488-1320 or 1-904-488-5757)

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SITE AREA EMERGENCY CHECKLIST (Page 2 of 2)

_____ 10. State Warning Point Acknowledgment Time: _____

(NAWAS announcement also serves to notify Dade and Monroe Counties and the State Department of Health and Rehabilitative Services).

_____ 11. Turn on LGR, contact Dade County Civil Defense, inform them that site evacuation has started, (if it has) location of assembly area(s), evacuation route(s). Notify them of any wind changes, and when evacuation is completed.

_____ 12. If site evacuation was necessary, verify that each operator on shift is uninjured and relay the operator's names and keycard numbers to Security Team Leader.

_____ 13. Notify HAFB Command Post (using the direct line or 257-8425, 257-8426 or 257-8427) if their services are required.

_____ 14. If site evacuation was necessary, verify from Security Team Leader that Owner Controlled Area Evacuation is complete and that all personnel are accounted for.

_____ 15. Direct Shift Technical Advisor to activate the Technical Support Center.

_____ 16. |Activate the Operational Support Center|.

_____ 17. Within one hour notify NRC via ENS hot-line. Alternate numbers are 1-301-492-8111 and 1-301-492-7000. Use the attached Appendix B to make the notification. Do not hang up until NRC gives permission.

_____ 18. |Reassess the Emergency Classification and update the Emergency Information Checklist and notify BDP via NAWAS with updated off-site dose information|.

_____ 19. Brief the Technical Support Center Supervisor (normally the Technical Department Supervisor) on events. Direct him to update State and County periodically (EOF will perform these updates when operational).

_____ 20. Reassess corrective and protective actions. Verify activities underway, reassign personnel and teams as necessary.

_____ 21. Relinquish Emergency Coordinator control and communications responsibilities to the Emergency Control Officer when he assumes the responsibilities.

_____ 22. When the plant conditions no longer meet the definition of Site Area Emergency, so notify the TSC Supervisor so that he can notify the ECO, who will notify BDP.

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GENERAL EMERGENCY CHECKLIST (Page 1 of 3)

Actions to be taken by Emergency Coordinator
in the event of GENERAL EMERGENCY

- _____ 1. Order initial corrective action per Emergency Operating Procedures.
- _____ 2. Notify personnel of the emergency condition over the PA system (crossconnect the page), giving location, class, and type of emergency.
- _____ 3. Order all non-essential personnel to commence evacuation of the Owner Controlled Area in accordance with Emergency Procedure 20110, Criteria for and Conduct of Owner Controlled Area Evacuation.
- _____ 4. Sound Site Evacuation Alarm.
- _____ 5. Repeat PA announcement.
- _____ 6. Order Security Team Leader to evacuate Owner Controlled Area and to report personnel accountability as soon as possible.
- _____ 7. Direct Nuclear Watch Engineer to mobilize other interim Emergency Teams as necessary.
- _____ 8. Within fifteen minutes of declaration of emergency make NAWAS Announcement:

"State Warning Point Tallahassee, this is Turkey Point."
(State Warning Point will give a go-ahead)

"State Warning Point Tallahassee, this is Turkey Point"

|(Relay Emergency Information Checklist Data)|

"Acknowledge, over."|

(If NAWAS is inoperable, call BDP at 1-904-488-1320 or 1-904-488-5757)
- _____ 9. State Warning Point Acknowledgment Time: _____

(NAWAS announcement also serves to notify Dade and Monroe Counties and the State Department of Health and Rehabilitative Services.)

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GENERAL EMERGENCY CHECKLIST (Page 2 of 3)

_____ 10. Complete Emergency Information Checklist including off-site dose projections using Emergency Procedure 20126, Radiation Release and Dose Projection.

_____ 11. Make NAWAS Announcement:

"State Warning Point Tallahassee, this is Turkey Point."
(State Warning Point will give a go-ahead).

"State Warning Point Tallahassee, this is Turkey Point"

[(Relay Emergency Information Checklist data)]

"Acknowledge, over."

_____ 12. State Warning Point Acknowledgment Time: _____

_____ 13. Relay information to the Duty Call Supervisor (see NPS Bulletin Board for scheduled supervisor and telephone number). Direct him to notify the personnel on his call list in Emergency Procedure 20104.
Alternate: see Section 8.6 of this procedure.

_____ 14. Turn on LGR, contact Dade County Civil Defense, inform them that site evacuation has started, location of assembly area(s), evacuation route(s). Notify them of any wind changes, and when evacuation is completed.

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GENERAL EMERGENCY CHECKLIST (Page 3 of 3)

- _____ 15. Verify that each operator on shift is uninjured and relay names and keycard numbers to Security Team Leader.
- _____ 16. Notify HAFB Command Post - direct line, 257-8425, 257-8426 or 257-8427.
- _____ 17. Verify from Security Team Leader that Owner Controlled Area Evacuation is complete and that all personnel are accounted for.
- _____ 18. Order Shift Technical Advisor to activate the Technical Support Center.
- _____ 19. Activate the Operational Support Center.
- _____ 20. Within one hour notify NRC via ENS hot-line. Alternate numbers are 1-301-492-8111 and 1-301-492-7000. Use the attached Appendix B to make the notification. Do not hang up until NRC gives permission.
- _____ 21. Brief the Technical Support Center Supervisor (normally the Technical Department Supervisor) on events. Direct him to update State and County periodically. (EOF will perform these updates when operational.)
- _____ 22. Reassess corrective and protective actions. Verify activities underway, reassign personnel and teams as necessary.
- _____ 23. Reassess the Emergency Classification and update the Emergency Information Checklist with the Technical Support Center Supervisor.
- _____ 24. Relinquish control and communications responsibilities to the Emergency Control Officer when he assumes the responsibilities.
- _____ 25. When the plant conditions no longer meet the definition of General Emergency, so notify the TSC Supervisor so that he can notify the ECO, who will notify BDP.

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TABLE 1
 (Sheet 1 of 3)

EMERGENCY INFORMATION CHECKLIST
 MESSAGE FORM FOR NOTIFICATION
TO THE STATE OF FLORIDA

DATE AND TIME OF MESSAGE _____

1. SITE

<input type="checkbox"/> B	ST. LUCIE
<input type="checkbox"/> C	TURKEY POINT
2. ACCIDENT CLASSIFICATION

<input type="checkbox"/> A	UNUSUAL EVENT
<input type="checkbox"/> B	ALERT
<input type="checkbox"/> C	SITE AREA EMERGENCY
<input type="checkbox"/> D	GENERAL EMERGENCY
3. UNIT NUMBER(S)

<input type="checkbox"/> A	ONE (1)
<input type="checkbox"/> B	TWO (2)
<input type="checkbox"/> C	THREE (3)
<input type="checkbox"/> D	FOUR (4)
4. TIME AND DATE OF INCIDENT/EVENT: TIME _____ DATE _____
5. INCIDENT INVOLVES: _____

6. SITUATION INVOLVED:

<input type="checkbox"/> A	NO RELEASE
<input type="checkbox"/> B	POTENTIAL (POSSIBLE) RELEASE
<input type="checkbox"/> C	IMMINENT (PROBABLE) RELEASE
<input type="checkbox"/> D	A RELEASE IS OCCURRING
<input type="checkbox"/> E	A RELEASE THAT OCCURRED, BUT STOPPED
7. TYPE OF RELEASE IS:

<input type="checkbox"/> A	RADIOACTIVE GASEOUS
<input type="checkbox"/> B	NON-RADIOACTIVE GASEOUS
<input type="checkbox"/> C	RADIOACTIVE LIQUID
<input type="checkbox"/> D	NON-RADIOACTIVE LIQUID
<input type="checkbox"/> E	NON-APPLICABLE
8. RECOMMENDED PROTECTION ACTIONS:

<input type="checkbox"/> A	FOR INFORMATION ONLY - (UNUSUAL EVENT OR ALERT)		
<input type="checkbox"/> B	PREPARE FOR POSSIBLE ACTION INVOLVING THE PUBLIC, TO INCLUDE NOTIFICATION. (ALERT OR SITE AREA EMERGENCY)		
<input type="checkbox"/> C	NOTIFY PUBLIC TO TAKE THE FOLLOWING PROTECTIVE ACTIONS. (SITE AREA OR GENERAL EMERGENCY)		
	<u>NO ACTION</u>	<u>SHELTER</u>	<u>EVACUATE</u>
	<input type="checkbox"/>	<input type="checkbox"/> D	<input type="checkbox"/> H 0-2 MILE RADIUS (GASEOUS RELEASE)
	<input type="checkbox"/>	<input type="checkbox"/> E	<input type="checkbox"/> I 2-5 MILES FOR SECTORS _____ (GASEOUS RELEASE)
	<input type="checkbox"/>	<input type="checkbox"/> F	<input type="checkbox"/> J 5-10 MILES FOR SECTORS _____ (GASEOUS RELEASE)
		<input type="checkbox"/> G	<input type="checkbox"/> K _____ MILES
<input type="checkbox"/> L	DISCONTINUE USE OF POTENTIALLY AFFECTED WATER IN _____ LOCATIONS		
9. RELEASE IS:

<input type="checkbox"/> A	CONTINUING - EXPECTED DURATION OR MAGNITUDE _____
<input type="checkbox"/> B	TERMINATED - APPROXIMATE DURATION OR MAGNITUDE _____

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TABLE 1
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EMERGENCY INFORMATION CHECKLIST

10. REPORT OF GASEOUS RELEASE IS: [A] GROUND LEVEL

11. WIND SPEED: _____ MILES PER HOUR

12. WIND DIRECTION DATA (CHECK ONE, READ ACROSS)

	WIND FROM	DEGREES	WIND TOWARD	SECTORS AFFECTED
A	N	349-11	S	H J K
B	NNE	12-33	SSW	J K L
C	NE	34-56	SW	K L M
D	ENE	57-78	WSW	L M N
E	E	79-101	W	M N P
F	ESE	102-123	WNW	N P Q
G	SE	124-146	NW	P Q R
H	SSE	147-168	NMW	Q R A
J	S	169-191	N	R A B
K	SSW	192-213	NNE	A B C
L	SW	214-236	NE	B C D
M	WSW	237-258	ENE	C D E
N	W	259-281	E	D E F
P	WNW	282-303	ESE	E F G
Q	NW	304-326	SE	F G H
R	NMW	327-348	SSE	G H J

13. CURRENT OUTSIDE TEMPERATURE: [A] _____ °F

14. WEATHER CONDITIONS (RAIN, SNOW, SLEET, ETC.): _____

15. TEMPERATURE DIFFERENCE (DELTA T): [A] _____ °F

ELEVATION OF TEMP. DIFFERENCE MEASUREMENT: _____

STABILITY CLASS (IF KNOWN) _____

16. RELEASE DETECTED BY:

[A] VISUAL

[B] SAMPLE RESULTS ARE: _____

[C] INSTRUMENTATION

LOCATION _____

RELEASE RATE (C1/sec) _____

17. ACCIDENT RELATED INJURIES: [A] NO [B] YES NUMBER OF INJURIES _____

18. OTHER

INFORMATION: _____

19. MESSAGE REPORTED BY: _____ NAME ORGANIZATION TELEPHONE (OUTSIDE Δ) _____

20. MESSAGE RECEIVED BY: _____ YOUR NAME TIME DATE _____

CONTINUE TO NEXT PAGE FOR:

- 1) PLANT DUTY SUPERVISOR
- 2) EMERGENCY CONTROL OFFICER/RECOVERY MANAGER/NUCLEAR ENERGY DUTY OFFICER
- 3) DHRS RADIOLOGICAL DUTY OFFICER

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TABLE 1
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EMERGENCY INFORMATION CHECKLIST

ADDENDUM TO MESSAGE FORM FOR NOTIFICATION TO THE STATE OF FLORIDA

1. DATE AND / /
 TIME OF MESSAGE

2. ASSESSMENT OF THE
 EMERGENCY (INCLUDING
 POTENTIAL FOR ESCALATION
 TO HIGHER CLASS)

3. BASIC DESCRIPTION OF THE EVENT

4. ESTIMATE OF RADIOACTIVE MATERIAL RELEASED (GASEOUS):

NOBLE GASES: SOURCE TERM: Ci/Sec

TOTAL RELEASE: Ci

RADIOIODINES: SOURCE TERM: Ci/Sec

TOTAL RELEASE: Ci

5. ESTIMATE OF PROJECTED OFFSITE DOSE RATES:

DISTANCE	*THYROID (mRem/hr)	WHOLE BODY (mRem/hr)
1 mile (site boundary)		
2 miles		
5 miles		
10 miles		

*Adult thyroid dose commitment - the accumulated dose body burden to an adult from inhalation of radioiodine for 1 hour duration.

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PROTECTIVE ACTION RECOMMENDATIONS CHECKLIST

FPL is required to provide BDP with recommendations for protective actions to be taken by off-site personnel during an emergency condition. Until the EOF is staffed and functional following declaration of the emergency, the EC is responsible for providing the state with these recommendations. Due to the extremely large political and legal ramifications of these recommendations and their very large potential impact on FPL, the format and content will be strictly adhered to as described below.

The contents of the recommendations are to be determined by using figures A-1 through A-5 of this procedure as follows:

1. If the emergency has been classified as a GENERAL EMERGENCY and No Off-Site dose estimates or field survey results are available, refer to Figure A-1 through A-3 to evaluate off-site protective action recommendations.

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

2. If the emergency has been classified, and the off-site doses are LESS THAN 0.5 Rem whole body or 1 Rem to the thyroid at 1 mile over the projected duration of the release, no protective action is recommended. This should be reported to BDP and other outside agencies who inquire as:

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

NOTE: Off-site dose values are calculated from Emergency Procedure 20126, Off-site Dose Calculations, and/or field monitoring results.

3. If the emergency has been classified and off-site dose information is available (from any credible source), use the dose information to enter the appropriate estimated off-site table in Figure A-2 (PA with off-site dose estimates for greater than or equal to 2 hour duration) or Figure A-3 (PA with off-site dose estimates for less than 2 hour duration). The appropriate recommendations can then be made. For example, a release has occurred at the St. Lucie Plant with a projected duration of 2 hours, the wind direction is from the NNE and the projected off-site integrated (2 hr) thyroid dose is 10 Rem at 1 mile, 2 Rem at 2 miles, and less than 1 Rem at 5 miles. Referring to Figure A-2 (PA with off-site dose estimates for greater than or equal to 2 hours duration) the following recommendation should be made:

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

- (1) Evacuate all personnel between a 0 and 2 miles radius from the plant.
- (2) Shelter all personnel between a 2 and 5 mile radius from the plant who are in sectors J, K and L (refer to Emergency Information Checklist).

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

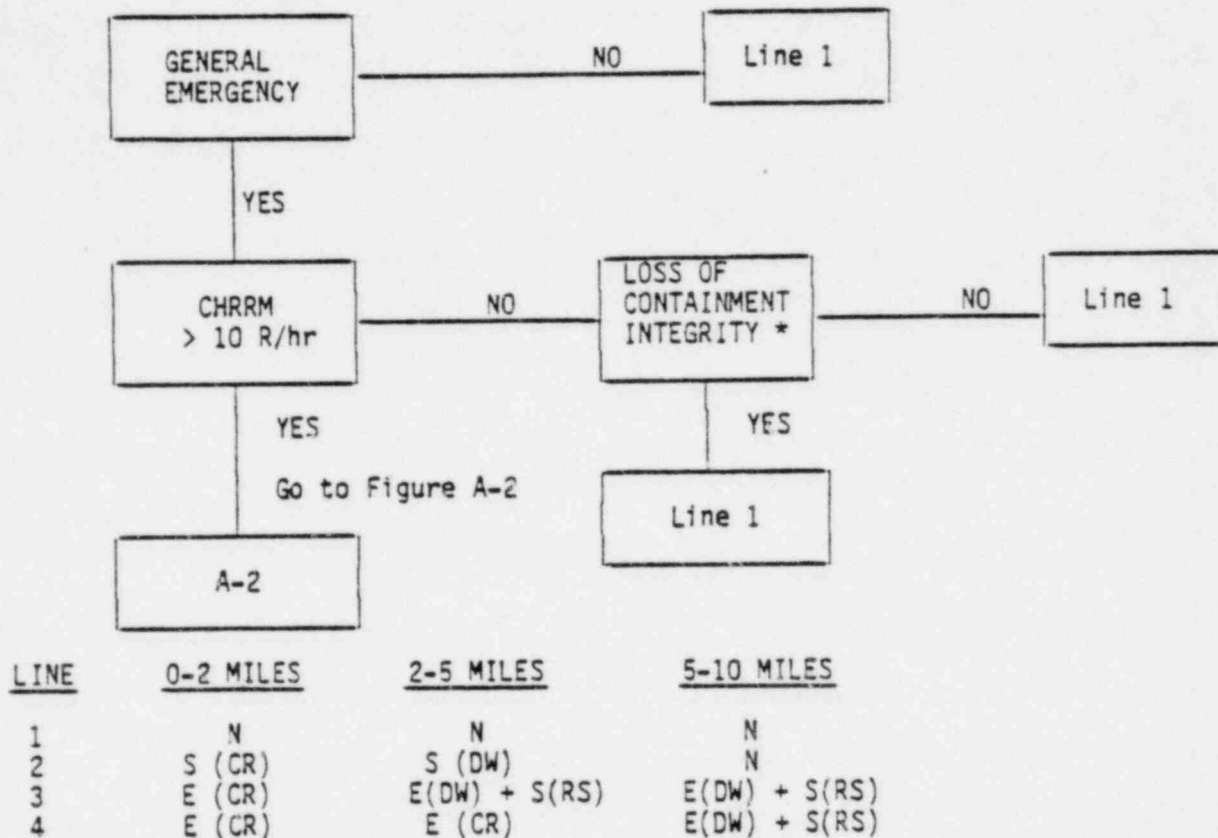
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4. When available, both plume calculations and off-site monitoring results should be evaluated when making these protective action recommendations. If significant discrepancies exist between field monitoring results and plume dispersion calculations, then an evaluation of the discrepancy should be made, and the appropriate value should be selected in the determination of protective action recommendations.
5. For other emergency conditions which may occur, enter the table for those conditions, determine the recommended protective actions and formulate the appropriate message in the above format and transmit it to BDP.
6. Protective action recommendations for a child have been incorporated into the figures.

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FIGURE A-1

PROTECTIVE ACTION RECOMMENDATIONS BASED ON PLANT CONDITIONS
 (To Be Used Only When Off-Site Dose Projections Are Not Available)



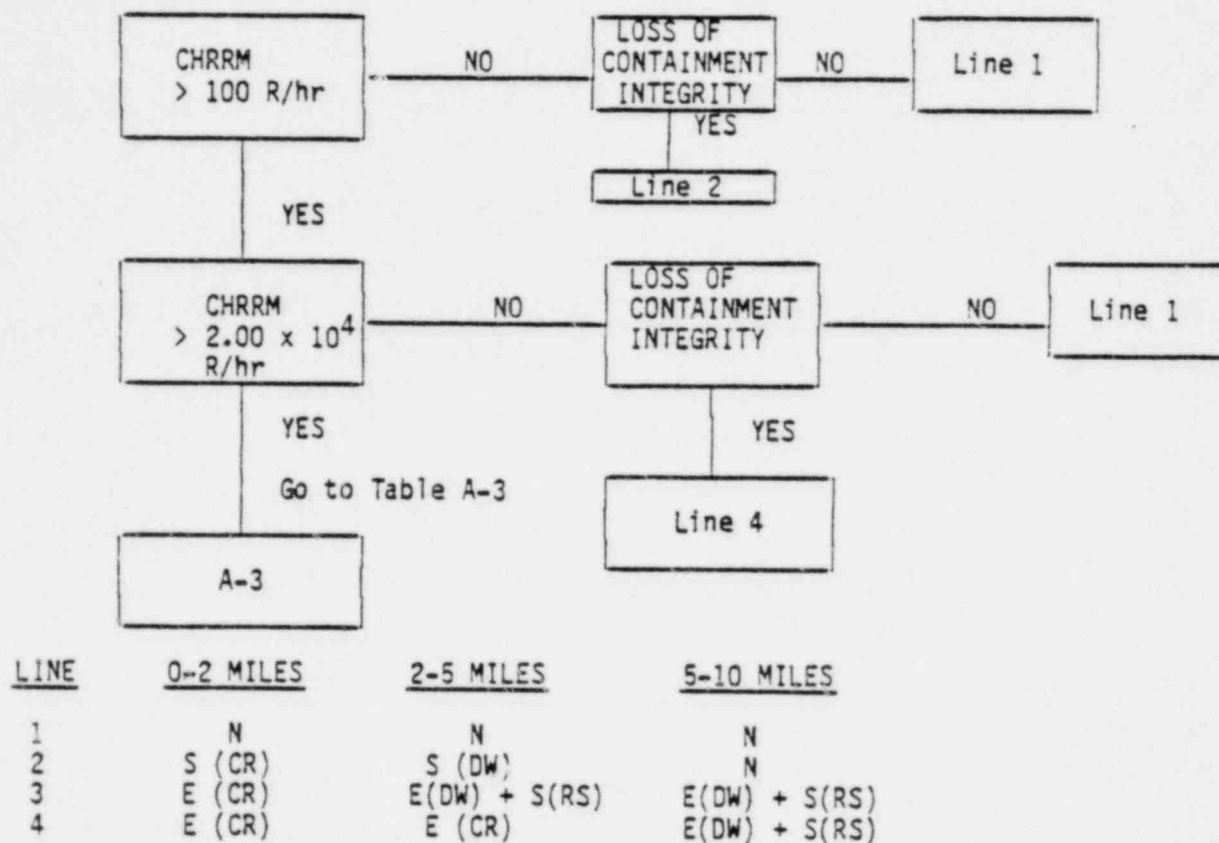
LEGEND OF ABBREVIATIONS

N = No Protective Action Recommended
 S = Sheltering Recommended
 E = Evacuation Recommended
 DW = Downwind Sector + 2 Adjoining Sectors
 RS = Remaining Sectors
 CR = Complete Circle Around Plant at Specified Distance

*Loss of Containment Integrity assumes greater than allowable Technical Specification leakage but less than 400 times this value.

FIGURE A-2

PROTECTIVE ACTION RECOMMENDATIONS BASED ON PLANT CONDITIONS
 (To Be Used Only When Off-Site Dose Projections Are Not Available)



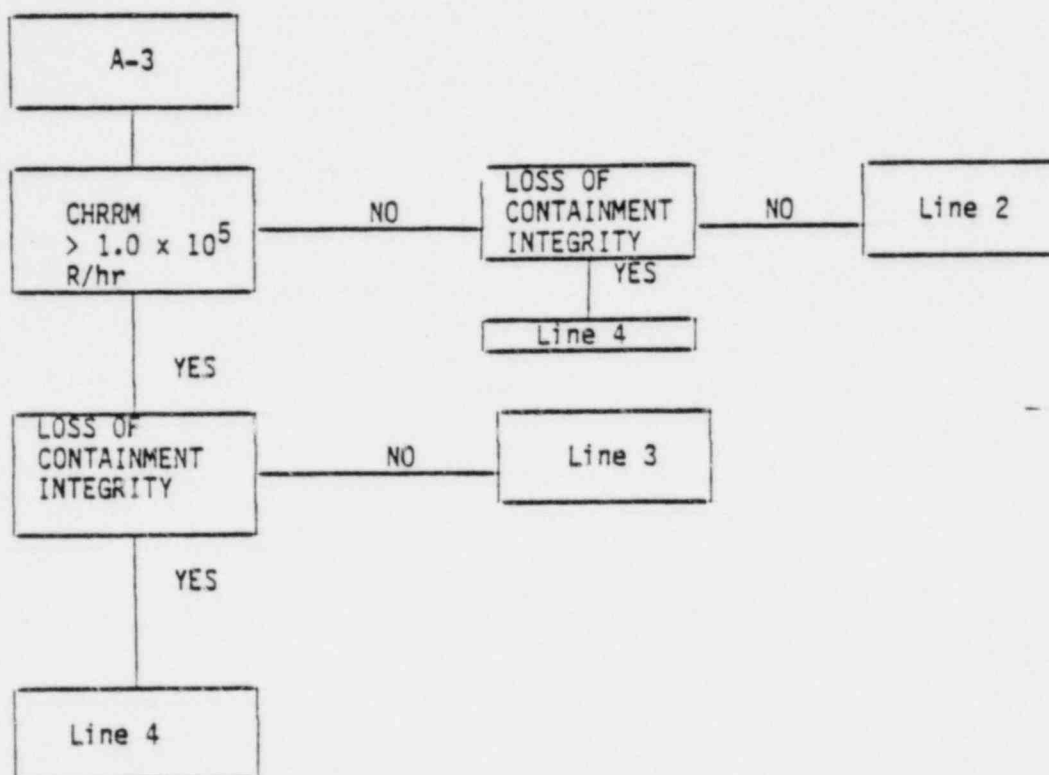
LEGEND OF ABBREVIATIONS

N = No Protective Action Recommended
 S = Sheltering Recommended
 E = Evacuation Recommended
 DW = Downwind Sector + 2 Adjoining Sectors
 RS = Remaining Sectors
 CR = Complete Circle Around Plant at Specified Distance

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FIGURE A-3

PROTECTIVE ACTION RECOMMENDATIONS BASED ON PLANT CONDITIONS
 (To Be Used Only When Off-Site Dose Projections Are Not Available)



<u>LINE</u>	<u>0-2 MILES</u>	<u>2-5 MILES</u>	<u>5-10 MILES</u>
1	N	N	N
2	S (CR)	S (DW)	N
3	E (CR)	E (DW) + S (RS)	E (DW) + S (RS)
4	E (CR)	E (CR)	E (DW) + S (RS)

LEGEND OF ABBREVIATIONS

- N = No Protective Action Recommended
- S = Sheltering Recommended
- E = Evacuation Recommended
- DW = Downwind Sector + 2 Adjoining Sectors
- RS = Remaining Sectors
- CR = Complete Circle Around Plant at Specified Distance

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FIGURE A-4

PROTECTIVE ACTION RECOMMENDATIONS BASED ON ACTUAL RELEASE
(GREATER THAN OR EQUAL TO 2 HOUR DURATION) WITH OFFSITE DOSE ESTIMATES

(used in preference to Figure A-1 through A-3)

WHOLE BODY DOSE (REM)	OR THYROID DOSE (REM)		* 0-2 MILES; USE 1 MILE VALUE	2-5 MILES; USE 2 MILE VALUE	5-10 MILES; USE 5 MILE VALUE
< 0.5	< 1.0	—	N	N	N
≥ 0.5 but < 1.0	≥ 1.0 but < 5.0	—	S(CR)	S(DW)	S(DW)
≥ 1.0 but < 5.0	≥ 5.0 but < 25.0	—	E(CR)	E(DW) + S(RS)	E(DW) + S(RS)
≥ 5.0	≥ 25.0	—	E(CR)	E(CR)	E(DW) + S(RS)

NOTE:

If the duration of the release is projected to be less than 2 hours, use Figure A-5.

*The dose @ 1 mile affects protective actions
from 0-2 miles

The dose @ 2 miles effects protective actions
from 2-5 miles

The dose @ 5 miles effects protective actions
from 5-10 miles

The dose @ 10 miles can be used to evaluate
protective actions for greater distances.

LEGEND OF ABBREVIATIONS

N - No protective action recommended

S - Sheltering recommended

E - Evacuation recommended

DW- Downwind sector + 2 adjoining
sectors

RS- Remaining sectors

CR- Complete circle around plant at
specified distance

FIGURE A-5

PROTECTIVE ACTION RECOMMENDATIONS BASED ON ACTUAL RELEASE
(LESS THAN 2 HOUR DURATION) WITH OFFSITE DOSE ESTIMATES
(used in preference to Figure A-1 through A-3)

WHOLE BODY DOSE (REM)	OR THYROID DOSE (REM)		0-2 MILES; USE 1 MILE VALUE	2-5 MILES; USE 2 MILE VALUE	5-10 MILES; USE 5 MILE VALUE
< 0.5	< 1.0	—	N	N	N
≥ 0.5 but < 1.0	≥ 1.0 but < 5.0	—	S(CR)	S(DW)	S(DW)
≥ 1.0 but < 5.0	≥ 5.0 but < 25.0	—	S(CR)	S(CR)	S(CR)
≥ 5.0	≥ 25.0	—	E(CR)	E(DW) + S(RS)	E(DW) + S(RS)

NOTE:

If the duration of the release is projected to be less than 2 hours, use Figure A-4.

*The dose @ 1 mile affects Protective Actions
from 0-2 miles

The dose @ 2 miles affects Protective Actions
from 2-5 miles

The dose @ 5 miles affects Protective Actions
from 5-10 miles

The dose @ 10 miles can be used to evaluate
Protective Actions for greater distances.

LEGEND OF ABBREVIATIONS

- N - No protective action recommended
- S - Sheltering recommended
- E - Evacuation recommended
- DW- Downwind sector + 2 adjoining sectors
- RS- Remaining sectors
- CR- Complete circle around plant at specified distance

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FIRE OR EXPLOSION EMERGENCY CHECKLIST

TIME

_____ Crossconnect page to all units and sound fire alarm.

_____ Make page announcement: "This is not a drill. This is not a drill," and give the location and classification of the fire/explosion. Then announce, "All personnel in the fire area withdraw to a safe location."

_____ Activate any other appropriate Emergency Teams - as needed

_____ Dade County Fire Department - 911 See EP 20107 concerning when to call Dade County

_____ HAFB Direct line to command post. (See EP 20107 concerning when to call HAFB)

_____ Return to appropriate UNUSUAL EVENT, ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY checklist.

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MEDICAL EMERGENCY CHECKLIST

TIME

Determine:

Name of Victim _____ Employer (if not FPL) _____
 Nature and Extent of Injury _____
 Location _____ Is Victim contaminated _____

Ensure Victim gets first aid by:

Sending N.W.E. and extra operator to scene and activating First Aid and Personnel Decontamination Team (Notify Radiochemist or Chemistry Supervisor at 215/216/380/381 on Bell phone or 171/169/312 on PAX phone).

NOTIFY:

Health Physics	PAX 308/170	BELL 220/217
Site Manager	PAX 213	BELL 370
Plant Manager-Nuclear	PAX 214	BELL 355

When determined, notify Captain of Guard where to direct ambulance, etc.

RADIO (CHANNEL 1)	PAX 207	BELL 383
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Nuclear Plant Supervisor should:

1. Determine mode of transportation based on nature and extent of injuries. (Ensure victim's TLD, selfreader, ID badge and key card are retained on site).
 - a) Immediate life threatening condition:
 DADE COUNTY FIRE RESCUE PHONE: 911 or 279-1441
 HOMESTEAD AIR FORCE BASE 3 and 4 Direct Tie Line Phone
 - b) Medical transportation for serious injury:
 RANDLE EASTERN AMBULANCE PHONE: 911 or 642-6400
 BECHTEL AMBULANCE PHONE: 6-308 OR 246-1300 EXT. 308
 - c) Medical treatment for minor injuries:
 FPL Vehicle - Call Maintenance Supervisor
2. Decide where to send victim and notify them he is coming.
 - a) Non-radioactively contaminated victims:
 Send to CORAL REEF GENERAL HOSPITAL PHONE: 251-2500
 - b) Radioactively contaminated victims send to:
 See EP 20101 - Appendix A - "REEF Notification"
 MT. SINAI HOSPITAL (primary) PHONE: 673-2183
 BAPTIST HOSPITAL (backup) PHONE: 271-6024
 (Radiation Protection Man should accompany the victim to the hospital)
3. If Site Manager not available, notify Administrative Assistant (PAX 212 or BELL 369) or Duty Call Supervisor - See Emergency Roster. Site Manager and/or the Administrative Assistant will handle off-site notifications.

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DUTIES OF EMERGENCY COORDINATOR

APPENDIX A

REEF NOTIFICATION

In the event of a radiation emergency which requires the transportation of casualties to REEF, located within Mt. Sinai Hospital, the Emergency Coordinator shall transmit the following information, if it is available:

1. Name of casualty being transported _____.
2. Types of injuries involved and body part:
 - a. Fractures _____.
 - b. Burns _____.
 - c. Hemorrhaging _____.
 - d. Other _____.
 - e. Ambulatory: Yes _____ No _____.
3. Radiation contamination status:
 - a. Type of instrument used _____.
 - b. _____.

BODY PART	BEFORE DECONTAMINATION C/M	AFTER DECONTAMINATION C/M
1.		
2.		
3.		
4.		
5.		

- c. Radioisotopes involved _____.
- d. Decontamination procedures used _____.
- _____.
4. Type of transporting vehicle _____.
5. Time of departure from plant _____.

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DUTIES OF EMERGENCY COORDINATOR

APPENDIX B

CHECKLIST FOR NOTIFICATION OF SIGNIFICANT
EVENTS MADE IN ACCORDANCE WITH 10 CFR 50.72

A. Identification:

Date: _____ Time: _____ Name of Person Making Report: _____
ENS or Bell Phone: _____ Name of Person Contacted: _____
License: Florida Power and Light Co. Facility Affected: Turkey Point Unit
Applicable Part of 10 CFR 50.72: _____ Activation of Emergency Plans _____

B. Description:

Date of Event: _____ Time: _____
Trip Number: _____
Description of What Happened: _____

C. Consequences of Event: (Complete depending on type of event)

Injuries: _____ Fatalities: _____
Contamination (personnel): _____ (property): _____
Overexposures (known/possible) _____
Safety Hazard (describe - actual/potential) _____

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APPENDIX B (cont'd)

CHECKLIST FOR NOTIFICATION OF SIGNIFICANT
EVENTS MADE IN ACCORDANCE WITH 10 CFR 50.72

C. Consequences of Event: (Complete depending on type of event) (cont'd)

Offsite Radiation Levels: _____

Integrated Dose: _____ Location: _____

Meteorology (wind speed): _____ From (direction): _____

Weather Conditions (rain, clear, overcast, temperature): _____

Equipment/Property Damage: _____

D. Cause of Event: _____

E. Licensee Actions:

Taken: _____

Planned: _____

Emergency Plan Activated (Yes/No): _____ Classification of Emergency¹ _____

Resident Inspector Notified (Yes/No): _____ State Notified (Yes/No): _____

Press Release Planned (Yes/No): _____ News Media Interest (Yes/No): _____
Local/National: _____

TO BE COMPLETED BY PLANT MANAGER - NUCLEAR (or his designee)

¹Unusual Event, Alert, Site Area Emergency, or General Emergency

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DUTIES OF EMERGENCY COORDINATOR

APPENDIX B (cont'd)

CHECKLIST FOR NOTIFICATION OF SIGNIFICANT
EVENTS MADE IN ACCORDANCE WITH 10 CFR 50.72

F. Current Status: (Complete depending on type of event)

1. Reactor Systems Status: _____

Power Level Before Event: _____ After Event: _____

Pressure: _____ Temp. (t_{hot}) _____ (t_{cold}) _____

RCS Flow (Yes/No) _____ Pumps On (Yes/No) _____

Heat Sink: Condenser _____ Steam Atm. Dump _____ Other _____

Sample Taken (Yes/No): _____ Activity Level: _____

ECCS Operating (Yes/No): _____ ECCS Operable (Yes/No): _____

[Engineered Safety Feature] Actuation (Yes/No): _____

PRZ or RX Level: _____ Possible Fuel Damage (Yes/No) _____

S/G Levels: _____ Feedwater Source/Flow: _____

Containment Pressure: _____ Safety Relief Valve Actuation (Yes/No) _____

Containment Water Level Indication: _____

Equipment Failures: _____

Normal Offsite Power Available (Yes/No): _____

Major Busses/Loads Lost: _____

Safeguards Busses Power Source: _____

D/G Running (Yes/No) _____ Loaded (Yes/No) _____

2. Radioactivity Release:

Liquid/Gas _____ Location/Source: _____

Release Rate _____ Duration: _____

Stopped (Yes/No) _____ Release Monitored (Yes/No) _____

Amount of Release _____ Tech Spec. Limits _____

Radiation Levels in Plant _____ Areas Evacuated _____

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APPENDIX B (cont'd)

CHECKLIST FOR NOTIFICATION OF SIGNIFICANT
EVENTS MADE IN ACCORDANCE WITH 10 CFR 50.72

3. Security/Safeguards²

Bomb Threat: Search Conducted (Yes/No) _____ Search Results: _____

 Site Evacuated (Yes/No) _____

Intrusion: Insider _____ Outsider _____

 Point of Intrusion _____ Extent of Intrusion _____

 Apparent Purpose _____

Strike/Demonstration: Size of Group _____

 Purpose _____

Sabotage: Radiological (Yes/No) _____ Arson (Yes/No) _____

 Equipment/Property _____

Extortion: Source (phone, letter, etc.) _____

 Location of Letter _____

 Demands _____

General: Firearms involved (Yes/No) _____ Violence (Yes/No) _____

 Control of Facility Compromised or Threatened (Yes/No) _____

 Stolen/Missing Material _____

 Agencies Notified (FBI, State Police, Local Police, etc.) _____

Media Interest (present, anticipated) _____

TO BE COMPLETED BY PLANT MANAGER - NUCLEAR (or designee)

4. Other Comments: _____

²See 10 CFR 73.71 (c)

FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT UNITS 3 AND 4
EMERGENCY PROCEDURE 20103
MARCH 8, 1982

1.0 Title:

CLASSIFICATION OF EMERGENCIES

2.0 Approval and List of Effective Pages:

2.1 Approval:

Change dated 3/8/82 Reviewed by PNSC March 8, 1982

Approved by [Signature] Plant Mgr-Nuclear, March 8, 1982

Approved by [Signature] Vice President
Power Resources 3-8 19 82

2.2 List of Effective Pages:

<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>
1	3/8/82	5	3/8/82	9	3/8/82	13	3/8/82
2	3/8/82	6	3/8/82	10	3/8/82	14	3/8/82
3	3/8/82	7	3/8/82	11	3/8/82		
4	3/8/82	8	3/8/82	12	3/8/82		

3.0 Scope:

3.1 Purpose:

This procedure provides instructions on the classification of emergencies at Turkey Point Plant.

3.2 Discussion:

Four levels of emergency classification are established. In order of increasing seriousness, these are:

Unusual Event
Alert
Site Area Emergency
General Emergency

A graduation is provided to assure fuller response preparations for more serious conditions.

3.3 Authority:

This procedure implements the Turkey Point Plant Emergency Plans.

EMERGENCY PROCEDURE 20103, PAGE 2
CLASSIFICATION OF EMERGENCIES

3.4 Definitions:

- 3.4.1 Unusual Event - This classification is represented by off-normal events or conditions at the Plant for which no significant degradation of the level of safety of the plant has occurred or is expected. Any releases of radioactive material which have occurred or which may be expected are minor and constitute no appreciable health hazard.
- 3.4.2 Alert - This classification is represented by events which involve an actual or imminent substantial degradation of the level of safety of the plant combined with a potential for limited uncontrolled radioactivity from the plant.
- 3.4.3 Site Area Emergency - This classification is composed of events which involve actual or likely major failures of plant functions needed for protection of the public combined with a potential for significant uncontrolled releases of radioactivity from the plant.
- 3.4.4 General Emergency - This classification is composed of events which involve actual or imminent substantial core degradation and potential loss of containment integrity combined with a likelihood of significant uncontrolled releases of radioactivity from the plant.

4.0 Precautions:

4.1 Conflicting Information:

When apparently conflicting information is available, the condition shall be classified at the most serious level indicated.

4.2 Judgmental Decision:

If, in the judgment of the Nuclear Plant Supervisor (Emergency Coordinator), a situation is more serious than indicated by instrument readings or other parameters, the emergency condition shall be classified at the more serious level.

5.0 Responsibilities:

5.1 Plant Personnel

All plant personnel are required to promptly report the existence of an emergency condition to the Nuclear Plant Supervisor by the fastest means possible.

5.2 Nuclear Plant Supervisor

- 5.2.1 The Nuclear Plant Supervisor shall promptly classify off-normal situations into one of the four defined categories.
- 5.2.2 If the diagnosis indicates that the condition is classified as an Unusual Event, Alert, Site Area Emergency, or General Emergency the Nuclear Plant Supervisor shall follow the instructions in Emergency Procedure 20101, Duties of Emergency Coordinator.

EMERGENCY PROCEDURE 20103, PAGE 3
CLASSIFICATION OF EMERGENCIES

- 5.2.3 If an emergency has been declared the Nuclear Plant Supervisor shall become the Emergency Coordinator and retain this position until relieved.

6.0 References:

- 6.1 Turkey Point Plant Emergency Plan
6.2 Emergency Procedure 20102, Duties of an Individual Who Discovers an Emergency Condition
6.3 Emergency Procedure 20101, Duties of Emergency Coordinator

7.0 Records and Notifications:

None

8.0 Instructions:

- 8.1 The Nuclear Plant Supervisor should initially classify a situation within 15 minutes of the time he has become aware of it. The initial classification shall be made on the basis of readily available observations and should not rely on laboratory analyses, measurements, or calculations which would require more than 15 minutes to perform.
8.2 If subsequent information of a more detailed nature (e.g., sampling results) becomes available after the initial classification has been made, the event shall be reclassified by the Emergency Coordinator if appropriate.
8.3 The Nuclear Plant Supervisor shall classify events in accordance with the attached Classification Tables. The event shall be classified by matching the actual situation to the one most closely approximating it in the Classification Table.

NOTE: Within fifteen minutes after the initial classification, the state and/or local agencies listed in the appropriate check list in Emergency Procedure 20101, Duties of the Emergency Coordinator.

EMERGENCY PROCEDURE 20103, PAGE 4
CLASSIFICATION OF EMERGENCIES

CLASSIFICATION TABLE

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<u>PRIMARY DEPRESSURIZATION - ABNORMAL PRIMARY/SECONDARY LEAK RATE</u>			
PRMS R-15 alarming, and RCS water inventory balance indicates a leak of more than 10 GPM.	RCS water inventory balance indicates > 50 GPM, and PRMS R-15 or R-19 alarming	Pressurizer level off-scale low, and safety injection has actuated, and a sustained loss of both 4160 V busses has occurred	A release has occurred or is in progress resulting in 1 R/hr (whole body) or 5 R/hr thyroid at site boundary* (1 mile)
<u>PRIMARY DEPRESSURIZATION - LOSS OF SECONDARY COOLANT</u>			
Increasing containment pressure (leak inside containment) and unusually loud noise outside containment; and steamline pressure is abnormally lower in one steam generator, or high steamline flow with low average temperature (543° F) or low steam generator pressure (600 psig) on two of three steam generators.	Loss of secondary coolant downstream of MSIV with malfunction of MSIV(s) or > 10 GPM primary to secondary leak as determined by: Indication of a major steam leak, and MSIV(s) are in position other than closed, or RCS water inventory balance indicates > 10 GPM leakage	Loss of secondary coolant with > 50 GPM primary/secondary leak rate and fuel damage as determined by: Indication of a major steam leak, and RCS water inventory balance indicates > 50 GPM leakage with high air ejector radiation, and RCS I-131 activity > 300 µCi/ml	A release has occurred or is in progress resulting in 1 R/hr (whole body) or 5 R/hr thyroid at site boundary* (1 mile)

ACTION

Complete actions listed on the UNUSUAL EVENT CHECKLIST.

Complete actions listed on ALERT CHECKLIST.

Complete actions listed on SITE AREA EMERGENCY CHECKLIST.

Complete actions listed on GENERAL EMERGENCY CHECKLIST.

* These criteria will be implemented upon installation of Appendix I - Instrumentation

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CLASSIFICATION OF EMERGENCIES

CLASSIFICATION TABLE (cont'd)

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
---------------	-------	---------------------	-------------------

PRIMARY DEPRESSURIZATION - ECCS INITIATED MANUALLY OR AUTOMATICALLY

Flow indicated on FI-*-943
 (VP-B)

PRIMARY DEPRESSURIZATION - FAILURE OF A PRIMARY SAFETY OR RELIEF VALVE TO CLOSE

Sustained increased
 temperature on TI-*-463,
 TI-465, TI-467, TI-469; or
 indication of continued flow
 through safeties on TEC
 safety valve flow
 indicators; and RCS pressure
 drops to less than 1600
 psig.

ACTION

Complete actions listed on
 the UNUSUAL EVENT CHECKLIST.

Complete actions listed on
 ALERT CHECKLIST.

Complete actions listed on
 SITE AREA EMERGENCY CHECKLIST.

Complete actions listed on
 GENERAL EMERGENCY CHECKLIST.

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EMERGENCY PROCEDURE 20103, PAGE 6
CLASSIFICATION OF EMERGENCIES

CLASSIFICATION TABLE (cont'd)

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<u>PRIMARY DEPRESSURIZATION - FAILURE OF A SECONDARY SAFETY OR RELIEF VALVE TO CLOSE</u>			

Any 2 of the following 3:

Rapid and continuing decrease in steam generator pressure to less than 500 psig; rapid RCS cool-down; audible steam relief noise lasting for longer than 10 minutes.

PRIMARY DEPRESSURIZATION - ABNORMAL PRIMARY LEAK RATE

RCS water inventory balance indicates from an unidentified source leakage of more than 1 GPM;

OR

RCS water inventory balance indicates leakage of more than 10 GPM;

OR

RCS water inventory balance indicates leakage of more than 30 GPM to a connecting closed system; and RCS water inventory balance indicates leakage is not greater than 50 GPM.

RCS water inventory balance indicates > 50 GPM leakage.

Loss of RCS coolant in excess of high head safety injection pump capacity, and containment pressure > 4 psi.

Containment pressure > 20 psi.

ACTION

Complete actions listed on the UNUSUAL EVENT CHECKLIST.

Complete actions listed on ALERT CHECKLIST.

Complete actions listed on SITE AREA EMERGENCY CHECKLIST.

Complete actions listed on GENERAL EMERGENCY CHECKLIST.

EMERGENCY PROCEDURE 20103, PAGE 7
CLASSIFICATION OF EMERGENCIES

CLASSIFICATION TABLE (cont'd)

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<u>ABNORMAL RADIATION, CONTAMINATION OR EFFLUENT RELEASE VALUES - UNCONTROLLED EFFLUENT RELEASE</u>			
<p>A release has occurred or is in progress which is greater than the Technical Specification limit, but less than ten times the Technical Specification limit (as shown by sample survey)</p> <p><u>Tech Spec Limit =</u></p> <p>.067 Ci/sec averaged over 1 any hour. R-14 about 2.5×10^5 cpm**</p>	<p>A release has occurred or is in progress that is 10 times the Tech. Spec. limit (as shown by sample)</p> <p>Plant Vent Noble Gas NMC reading corresponding to 10 x Tech Spec limit is about 40,000 cpm (Based on 1981 calibration and containment purge going at time of release).</p> <p><u>Tech Spec Limit =</u></p> <p>.067 Ci/sec averaged over any 1 hour.</p>	<p>A release has occurred or is in progress resulting in 50 mR/hr (whole body) or 250 mR/hr (thyroid) for 1/2 hr or 500 mR/hr (whole body) or 2500 mR/hr (thyroid) for two minutes at site boundary* (1 mile) or containment high range radiation monitor $\geq 1.3 \times 10^4$ R/hr.</p>	<p>A release has occurred or is in progress resulting in 1 R/hr (whole body) or an integrated dose of 5 R (thyroid) at site boundary* (1 mile) or containment high range radiation monitor $\geq 1.3 \times 10^5$ R/hr.</p>
<u>ACTION</u>			
Complete actions listed on the UNUSUAL EVENT CHECKLIST.	Complete actions listed on ALERT CHECKLIST.	Complete actions listed on SITE AREA EMERGENCY CHECKLIST.	Complete actions listed on GENERAL EMERGENCY CHECKLIST.

* these criteria will be implemented upon installation of Appendix I - Instrumentation

** Based on 1981 calibration and with an ongoing containment purge.

EMERGENCY PROCEDURE 20103, PAGE 8
CLASSIFICATION OF EMERGENCIES

CLASSIFICATION TABLE (cont'd)

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<u>ACCIDENT INVOLVING FUEL - FUEL ELEMENT FAILURE</u>			
PRMS R-20 alarming, and RCS I-131 activity is between 100 times normal (about 1×10^{-1} $\mu\text{Ci/ml}$) and 300 $\mu\text{Ci/ml}$.	PRMS R-20 alarming, and RCS I-131 activity ≥ 300 $\mu\text{Ci/ml}$.	Core damage with inadequate core cooling as determined by: RCS I-131 activity ≥ 300 $\mu\text{Ci/ml}$, and RCS $T_h > 620^\circ \text{F}$, or incore thermocouple temperatures $> 700^\circ \text{F}$	Loss of 2 of 3 fission product barriers with a potential loss of 3rd barrier as determined by: RCS I-131 activity ≥ 300 $\mu\text{Ci/ml}$, and containment pressure > 20 psi, or loss of containment integrity as defined in Tech. Specs.
<u>ACCIDENT INVOLVING FUEL - FUEL HANDLING ACCIDENT</u>			
	Fuel handling accident which results in the release of radioactivity to containment or spent fuel pit area: Direct information from fuel handling personnel indicating that an irradiated fuel assembly has been damaged and gas bubbles are escaping, and associated area or process monitor channels are alarming.	A release has occurred or is in progress resulting in 50 mR/hr (whole body) for 1/2 hr or 500 mR/hr (whole body) for two minutes at site boundary* (1 mile)	A release has occurred or is in progress resulting in 1 R/hr (whole body) or 5 R/hr thyroid at site boundary* (1 mile)
<u>ACTION</u>			
Complete actions listed on the UNUSUAL EVENT CHECKLIST.	Complete actions listed on ALERT CHECKLIST.	Complete actions listed on SITE AREA EMERGENCY CHECKLIST.	Complete actions listed on GENERAL EMERGENCY CHECKLIST.

* These criteria will be implemented upon installation of Appendix I - Instrumentation

EMERGENCY PROCEDURE 20103, PAGE 9
CLASSIFICATION OF EMERGENCIES

CLASSIFICATION TABLE (cont'd)

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<u>NATURAL PHENOMENA</u>			
Notification by the Weather Bureau of the approach of a hurricane or tornado.	Notification by the Weather Bureau of the approach of a hurricane with winds up to design basis (225 mph) levels, <u>OR</u> any tornado striking facility.	Notification by the Weather Bureau of the approach of a hurricane with winds > design basis (225 mph) levels.	
<u>HAZARDS TO STATION OPERATION</u>			
Aircraft crash on-site or unusual aircraft activity over facility; <u>or</u> on-site explosion; <u>or</u> toxic or flammable gas release at life threatening levels on-site.	Aircraft crash on-site damaging vital plant systems, <u>or</u> damage to safe shutdown equipment from missiles or explosion.		A release has occurred or is in progress resulting in 1 R/hr (whole body) or 5 R/hr thyroid at site boundary* (1 mile)
<u>LOSS OF ASSESSMENT FUNCTIONS</u>			
Significant loss of effluent monitoring capability, meteorological instruments, communications, etc. (which impairs ability to perform emergency assessment).	All annunciator alarms lost > 15 minutes with plant not in cold shutdown or during plant transient.		
<u>ACTION</u>			
Complete actions listed on the UNUSUAL EVENT CHECKLIST.	Complete actions listed on ALERT CHECKLIST.	Complete actions listed on SITE AREA EMERGENCY CHECKLIST.	Complete actions listed on GENERAL EMERGENCY CHECKLIST.

* These criteria will be implemented upon installation of Appendix I - Instrumentation

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EMERGENCY PROCEDURE 20103, PAGE 10
CLASSIFICATION OF EMERGENCIES

CLASSIFICATION TABLE (cont'd)

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
---------------	-------	---------------------	-------------------

COOLANT PUMP SEIZURE WITH FUEL DAMAGE

Reactor Coolant System flow indication decreases rapidly, and PRMS R-20 alarming, and RCS I-131 activity $\geq 300 \mu\text{Ci/ml}$.

A release has occurred or is in progress resulting in 50 mR/hr (whole body) for 1/2 hr or 500 mR/hr (whole body) for two minutes at site boundary* (1 mile)

A release has occurred or is in progress resulting in 1 R/hr (whole body) or 5 R/hr thyroid at site boundary* (1 mile)

SECURITY THREAT

Security contingency resulting in initiation of the Turkey Point Plant Security Contingency Plan

CONTROL ROOM EVACUATION

Evacuation of Control Room and control not established locally within 15 minutes.

ACTION

Complete actions listed on the UNUSUAL EVENT CHECKLIST.

Complete actions listed on ALERT CHECKLIST.

Complete actions listed on SITE AREA EMERGENCY CHECKLIST.

Complete actions listed on GENERAL EMERGENCY CHECKLIST.

* These criteria will be implemented upon installation of Appendix I - Instrumentation

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EMERGENCY PROCEDURE 20103, PAGE 11
CLASSIFICATION OF EMERGENCIES

CLASSIFICATION TABLE (cont'd)

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
---------------	-------	---------------------	-------------------

CONTAMINATED PERSONNEL

Transportation of
contaminated injured
individual(s) from the site
to an off-site hospital.

ABNORMAL RCS TEMPERATURES AND/OR PRESSURE

Core subcooling is
determined to be zero by:

Subcooling margin monitor;
or subcooling graph and RCS
pressure and highest RCS
loop temperature; or taking
the differences between
pressurizer temperature and
highest RCS loop
temperature.

ACTION

Complete actions listed on
the UNUSUAL EVENT CHECKLIST.

Complete actions listed on
ALERT CHECKLIST.

Complete actions listed on
SITE AREA EMERGENCY CHECKLIST.

Complete actions listed on
GENERAL EMERGENCY CHECKLIST.

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CLASSIFICATION OF EMERGENCIES

CLASSIFICATION TABLE (cont'd)

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
---------------	-------	---------------------	-------------------

SUSTAINED LOSS OF OFF-SITE POWER OR LOSS OF ON-SITE A.C. POWER CAPABILITY

Supply breakers indicate open; or volt and amperage meters indicate "0".

LOSS OF CONTAINMENT INTEGRITY

Violation of containment integrity as defined in Section 1.5 of Technical Specifications unless the reactor is in the cold shutdown condition; or violation of containment integrity as defined in Section 1.5 of Technical Specifications when the reactor vessel head is removed unless the reactor is in the refueling shutdown condition.

ACTION

Complete actions listed on the UNUSUAL EVENT CHECKLIST.

Complete actions listed on ALERT CHECKLIST.

Complete actions listed on SITE AREA EMERGENCY CHECKLIST.

Complete actions listed on GENERAL EMERGENCY CHECKLIST.

EMERGENCY PROCEDURE 20103, PAGE 13
CLASSIFICATION OF EMERGENCIES

CLASSIFICATION TABLE (cont'd)

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<u>LOSS OF ENGINEERED SAFETY FEATURES/FIRE PROTECTION SYSTEMS</u>			
<p>Loss of any equipment listed in the Technical Specifications Section 3.4 requiring plant shutdown; <u>or</u> loss of any instrumentation listed in Technical Specifications Section 3.5 requiring plant shutdown; <u>or</u> loss of any fire protection systems listed in Technical Specifications Section 3.14; <u>and</u> inability to make these systems operable within the specified time limits of Technical Specification 3.14.</p>			
<u>FIRE</u>			
Uncontrolled fire, not involving a safety system, but requiring off-site support.	Uncontrolled fire, potentially affecting safety systems and requiring off-site support.	Fire resulting in degradation of safety systems.	
<u>ACTION</u>			
Complete actions listed on the UNUSUAL EVENT CHECKLIST.	Complete actions listed on ALERT CHECKLIST.	Complete actions listed on SITE AREA EMERGENCY CHECKLIST.	Complete actions listed on GENERAL EMERGENCY CHECKLIST.

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CLASSIFICATION OF EMERGENCIES

CLASSIFICATION TABLE (cont'd)

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
---------------	-------	---------------------	-------------------

ABNORMAL RADIATION, CONTAMINATION OR EFFLUENT RELEASE VALUES - HIGH RADIATION LEVELS IN PLANT

General area radiation
levels > 1000 times normal
due to high radiation or
high airborne radioactivity
from an unidentified and/or
unisolated source, as
indicated by area radiation
monitoring system and area
radiation sample or survey.

ACTION

Complete actions listed on
the UNUSUAL EVENT CHECKLIST.

Complete actions listed on
ALERT CHECKLIST.

Complete actions listed on
SITE AREA EMERGENCY CHECKLIST.

Complete actions listed on
GENERAL EMERGENCY CHECKLIST.

FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT UNITS 3 AND 4
EMERGENCY PROCEDURE 20126
MARCH 8, 1982

1.0 Title:

OFF-SITE DOSE CALCULATIONS

2.0 Approval and List of Effective Pages:

2.1 Approval:

Change Dated 3/8/82 Reviewed PNSC March 8, 1982

Approved by D.H. Haase, P.E. Plt Mgr-Nuclear, March 8 1982

Approved by [Signature] Vice President of
Nuclear Energy 3-8 1982

2.2 List of Effective Pages:

<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>
1	3/8/82	8	3/8/82	15	3/8/82	22	3/8/82
2	3/8/82	9	3/8/82	16	3/8/82	23	3/8/82
3	3/8/82	10	3/8/82	17	3/8/82	24	3/8/82
4	3/8/82	11	3/8/82	18	3/8/82	25	3/8/82
5	3/8/82	12	3/8/82	19	3/8/82	26	3/8/82
6	3/8/82	13	3/8/82	20	3/8/82	27	3/8/82
7	3/8/82	14	3/8/82	21	3/8/82	28	3/8/82

3.0 Scope:

3.1 Purpose:

3.1.1 This procedure provides guidelines for calculating thyroid and whole body dose rates and integrated whole body and thyroid dose for the area surrounding the plant out to ten miles.

3.2 Discussion:

During any emergency involving release of radioactivity to the environment, the Emergency Plan requires that radiation dose rates and integrated doses to offsite areas within ten miles be calculated. This information will be used in making protective action recommendations and will be an input to the State of Florida Bureau of Disaster Preparedness in determining what offsite 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.

~~8804270300~~

EMERGENCY PROCEDURE 20126, PAGE 2
OFF-SITE DOSE CALCULATIONS

3.3 Authority:

This procedure implements the Turkey Point Plant Radiological Emergency Plan.

4.0 Precautions:

None

5.0 Responsibilities:

5.1 The Emergency Coordinator is responsible for directing that thyroid and whole body dose rates and integrated thyroid and whole body doses are calculated following an emergency which involves a release of radioactivity to the environment.

5.2 A Chemistry Department representative may be designated by the Emergency Coordinator to make these calculations in accordance with this procedure.

6.0 References:

6.1 Emergency Procedure 20101, Duties of the Emergency Coordinator

6.2 Turkey Point Plant Radiological Emergency Plan.

6.3 Accident Dose Calculations for Florida Power and Light Company, Turkey Point Nuclear Power Plant, December, 1981, prepared by HMM Associates (HMM Document No. 81-077)

6.4 Appendix A to this procedure - method to calculate meteorological data obtained from Homestead Air Force Base

6.5 Turkey Point Health Physics Manual 11500

6.6 Turkey Point Nuclear Chemistry Procedure NC-56, Operation of the Plant Vent Under Loss of Coolant or Similar Condition

7.0 Records and Notification:

7.1 Records of meteorological conditions used to calculate dose rates, the calculated thyroid and whole body dose rates and the integrated thyroid and whole body doses shall be kept on the attached worksheets.

7.2 As deemed appropriate by the Emergency Coordinator, the off-site authorities shall be notified of:

7.2.1 Meteorological conditions (wind speed, wind direction, stability, and precipitation).

7.2.2 Projected thyroid and whole body dose rates and integrated thyroid and whole body dose at 1, 2, 5 and 10 miles, including sectors affected, and

EMERGENCY PROCEDURE 20126, PAGE 3
OFF-SITE DOSE CALCULATIONS

- 7.2.3 Whether default values or actual measurements were used for dose estimates.
- 7.3 FPL is required to provide the Bureau of Disaster Preparedness (BDP) with recommendations for protective actions to be taken by off-site personnel during an emergency condition. Until the EOF is staffed and functional following declaration of the emergency, the EC is responsible for providing the state with these recommendations. Due to the extremely large political and legal ramifications of these recommendations and their very large potential impact on FPL, the format and content guidelines established in Emergency Procedure 20101, Duties of the Emergency Coordinator, shall be adhered to.
- 7.3.1 Projections of dose to the BDP 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, a default value of two hours should be used.

8.0 Instructions:

- 8.1 Upon initiation of an event which has resulted or could result in release of radioactive material, the Containment High Range Radiation Monitors reading should be compared to Table 12 - Action Guidelines for event classification.
- 8.2 Estimated thyroid and whole body dose rates in areas surrounding the plant shall be calculated as follows:

NOTE: Unless otherwise noted, all data is to be recorded on Table 1, "Dose Projection Worksheet". When available the TSC and/or EOF TRS-80 Model III Computer programmed by HMM Associates in accordance with the bases of Reference 6.3 may be used for dose calculations. The computer output of estimated thyroid and whole body dose rates and projected doses may be used in lieu of manually entering this data in Tables 1 and 2.

- 8.2.1 Record date and time of emergency on Table 1.
- 8.2.2 Record period for which dose projection is applicable. Dose projections will be made for one hour starting with time of release. Each succeeding half hour should be re-calculated with updated data on separate worksheets. Integrated dose shall also be recalculated after changes in release rate and/or meteorological conditions as discussed in Section 8.4.
- 8.2.3 Record the primary windspeed (Channel A), primary wind direction (Channel B) and primary stability indicator (Channel F) from meteorological recorder onto Table 1. Strip chart traces should be observed for the average fluctuation of these parameters. The value recorded should be the average of these fluctuations over the most recent fifteen minutes.

EMERGENCY PROCEDURE 20126, PAGE 4
OFF-SITE DOSE CALCULATIONS

NOTE: If either primary wind direction or wind speed is inoperative, record backup wind speed (Channel D) and backup wind direction (Channel E) data from South Dade tower onto Table 1. If both backup parameters are not available, call Homestead Air Force Base (257-7545) or use Homestead Air Force Base red phone to obtain data. (Wind speed will be given in knots from Homestead Air Force Base, to convert to mph, multiply by 1.15).

If primary stability indicator (ΔT) is inoperative, record actual value for backup stability indication (sigma theta) on worksheet. Sigma theta value is the standard deviation of wind direction for a 15 minute sample; therefore, it does not require an average over the previous 15 minutes.

If the backup stability indication (sigma theta) or the entire recorder is inoperative, calculate stability class using method described in Appendix A.

If for some reason the meteorological data cannot be obtained, then the following default table shall be used:

	<u>STABILITY CLASS</u>	<u>WIND SPEED</u>
Day	D	5 mph
Night	F	3 mph

If wind speed and wind direction is obtained from Homestead Air Force Base or if wind speed is determined by default value, indicate this by writing "HAFB" or "Default Value" after the entry in Table 1.

- 8.2.4 Determine stability class (Pasquill Category) from Table 3 and record on Table 1. If stability class is determined by Appendix A or by default value, indicate this by writing "Appendix A" or "Default Value" after entry in Table 1.
- 8.2.5 If the plant Process Monitor (R-14) alarms (primary monitor), determine effluent gas count rate average for the past fifteen minutes from the recorder and record in Column A of Table 1. If R-14 is off-scale high, use the NMC monitor's present noble gas meter reading as an input to Column A of Table 1. If the NMC is off-scale high, use Nuclear Chemistry Procedure NC-56, Operation of the Plant Vent Under Loss of Coolant Accident or Similar Conditions.
- 8.2.6 If Area Radiation Monitor No. 19 (Spent Fuel Pit Vent) alarms, determine the instantaneous Unit 3 Spent Fuel Pit vent NMC noble gas reading and record this value in Column A of Table 1.
- 8.2.7 If process monitor R-15 alarms and a steam generator tube leak is suspected, determine the most recent fifteen minute count rate average and enter Column A of Table 1.

EMERGENCY PROCEDURE 20126, PAGE 5
OFF-SITE DOSE CALCULATIONS

- 8.2.2 The CPM values obtained should be adjusted for flow changes in the plant vent if different than normal ventilation flow of 107,500 CFM according to:

$$\text{Plant Vent Factor} = \text{Actual Flow/Normal Flow}$$

The plant vent factor is listed in the Table below:

PLANT VENT FACTOR								
CONDITION NUMBER	CONTAINMENT PURGE		AUXILIARY BUILDING		SPENT FUEL PIT	RADWASTE BUILDING	LAUNDRY SYSTEM	PLANT VENT FACTOR
	Supp. 35000 cfm	Exn. 35000 cfm	Supp. 13500 cfm	Exn. 40000 cfm	Exhaust 20000 cfm	7500 cfm	11200 cfm	
1	0	0	0	0	1	2	1	.29
2	0	0	1	1	1	2	1	.75
3	0	0	2	2	1	2	1	.85
4	1	1	1	1	1	2	1	.93
5	1	1	2	2	1	2	1	1.0
6	2	2	1	1	1	2	1	1.12
7	2	2	2	2	1	2	1	1.18

If Loss of Off-Site Power occurs then proceed to Step 8.3.10.

- 8.2.9 Calculate the noble gas release rate (curies/sec.) by multiplying the noble gas reading obtained in Step 8.2.5 or 8.2.6 by the calibration constant in Column B times the vent factor obtained in 8.2.8 in Column C. Record this result in Column D of Table 1.

NOTE: If monitors are inoperable, a default value for release rate shall be used. The default values shall be selected from Table 4. If a default value is used record this fact by writing "Default Value" after the entry in Table 1.

- 8.2.10 For the appropriate accident listed below, determine the correct iodine release rate factor and enter in Column E.

<u>Accident Type</u>	<u>Iodine Release Rate Factor</u>
LOCA	0.011
Fuel Handling	.001
S/G Tube Rupture	0.004

EMERGENCY PROCEDURE 20126, PAGE 6
OFF-SITE DOSE CALCULATIONS

- 8.2.11 Determine iodine release rate by multiplying the total noble gas reading in Column D by iodine release rate factor in Column E. Record result in Column F in Table 1.
- 8.2.12 Sum the noble gas releases, then the iodine releases and record each result in their respective sum total column of Table 1.
- 8.3 If Nuclear Chemistry Department grab sample results of noble gas and iodine substituted for instrument derived results. Assay results can be converted to Ci/sec as shown in Note below. The results should be entered under the sum totals for Columns D and F on Table 1 (circle entries to indicate grab samples).

NOTE: To obtain Ci/sec from grab sample assay results in $\mu\text{Ci/cc}$:

Gross Noble Gas
or Iodine

Assay Act. \times Ventilation Flow \times Vol. Conver. \times Time Conv. \times Act. Conv. =

$$\frac{\mu\text{Ci}}{\text{cc}} \times \frac{\text{ft}^3}{\text{min}} \times \frac{28317 \text{ cc}}{\text{ft}^3} \times \frac{\text{min.}}{60 \text{ sec.}} \times \frac{\text{Ci}}{10^6 \mu\text{Ci}} = \text{Ci/sec}$$

- 8.4 If the effluent monitors are inoperable and a LOCA has occurred, an estimate of the potential release rates for noble gas and iodine can be made using the readings on the Containment High Range Radiation Monitors. Figure 1 compares monitor R/hr vs. Core Fraction Airborne (CF) using elapsed time-lines from Reactor Trip. Reactor Trip Line is $t=0$. Estimate Dose as follows:

- 8.4.1 If the highest CHRRM channel indicates less than 10 R/hr, the Off-site Dose Rate is negligible. Do not proceed any further.
- 8.4.2 On the vertical axis, find the R/hr on Figure 1 for the R/hr observed on the highest CHRRM channel.
- 8.4.3 Follow the R/hr line to where it intersects the time line representing the hour from Reactor Trip when the CHRRM reading was obtained. Do not interpolate between lines. On the graph reference, use the longer trip time line of the two under consideration. (Example: if 1.5 hours have elapsed since Reactor Trip and CHRRM is observed at $t=1.5$ hours, the time line $t=2$ hours is the correct line). RECORD the hours since Reactor Trip and the time line used on Table 1. After 24 hours elapsed time use the 24 hour line.
- 8.4.4 From the intersection of the R/hr line and the appropriate time line, project a vertical line downward to the horizontal axis. Obtain the value of Core Fraction Airborne (CF) a unitless number. This represents the fraction of core inventory that is estimated to be airborne inside containment. Enter the CF value under the CF column on Table 1 Case III.

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OFF-SITE DOSE CALCULATIONS

8.4.5 From Figure 2, obtain the Noble Gas Reduction Factor (R) by projecting a vertical line up from the elapsed time axis in hours to the point where it intersects the curve. Then project a horizontal line towards the Reduction Factor axis to obtain the value of R. Enter this value under the Column R on Table 1 Case III.

8.4.6 Perform the calculations indicated on the worksheet and enter the Noble Gas and Iodine Release Rate Ci/sec values on the Worksheet where indicated. The calculations are shown below for information.

<u>Core Fraction</u> <u>Airborne</u>		<u>Reduction</u> <u>Factor</u>		<u>Estimated</u> <u>Ci/sec</u> <u>(for a CF=1.0)</u>
<u>Step</u>	X	<u>Step</u>	X	
Ci/sec Noble Gas =	CF	X	R	X
				10.2
Ci/sec Iodine w/ Safeguards OPERABLE =	CF	X	1.0	X
				0.11
Ci/sec Iodine w/ NO Safeguards OPERABLE =	CF	X	1.0	X
				0.63

NOTE: For Iodines (R) shall equal 1.0 i.e., no decay credit allowed.

8.4.7 If CHRRM and effluent monitors are inoperable, a default value for release rate should be used. The default values should be selected from Table 4. If a default value is used record this fact by writing "Default Value" after the entry in Table 1.

8.4.8 In Column E of Table 1 record for each distance listed (1, 2, 5, and 10 miles) the calculated sum total values of noble gas release rate (Column D) and iodine release rate (Column F).

NOTE: If the program for the TRS-80 Model III computer is available, Steps 8.4.9 through 8.4.13 will be available on computer output and need not be done manually.

8.4.9 A series of thyroid and whole body dose rate tables are provided as Tables 5 to 11. For each combination of stability and wind speed group, the thyroid and whole body dose rate (mrem/hour) for a one Ci/sec release rate is pre-calculated for downwind distances along the plume centerline. Select the proper table based on the stability and wind speed group noted on Table 1. Input the values listed from the appropriate tables for the 1, 2, 5 and 10 mile distances under Column H of Table 1 for the corresponding distances.

EMERGENCY PROCEDURE 20126, PAGE 8
OFF-SITE DOSE CALCULATIONS

- 8.4.10 For each distance; 1, 2, 5, and 10 miles, determine the whole body dose rate and thyroid dose rate by multiplying the corresponding value from Column G times the value in Column H of Table 1. Record the results in Column I.
- 8.4.11 Enter in Column J the duration (normally two hour) for this estimated dose rate at 1, 2, 5 and 10 miles.
- 8.4.12 Enter product of Column I times Column J (dose) into Table 2 in the wind direction row closest in value to the wind direction recorded in Table 1.
- 8.4.13 In order to account for uncertainty in wind direction measurement and spatial variation in wind direction, the data from step 8.4.12 should also be entered in the two adjacent sectors. All other sector/distance blocks are assumed to have zero dose.
- 8.5 The Emergency Coordinator or his designee shall monitor release rates and meteorological conditions to determine how frequently to update the dose rate estimates. Dose rate estimates shall be updated if any of the following averages change by the amounts indicated below, over a period not to exceed 30 minutes:
- 8.5.1 It is determined that releases of radioactivity have been terminated.
- 8.5.2 Release rates increase by more than 25%.
- 8.5.3 Wind speed decreases by two classes or more (e.g. 9-18 mph to 2-4 mph).
- 8.5.4 Atmospheric stability becomes more stable by two classes or more (e.g., stability D to F).
- 8.5.5 Wind direction changes by more than 22.5° (i.e., plume centerline is more than one sector away from prior location).
- NOTE: In any case, the estimates shall be revised at least hourly for the first 8 hours after the accident unless it is determined that releases of radioactivity have been terminated.
- 8.6 The Emergency Coordinator shall ensure that thyroid and whole body dose rates are calculated and cumulative thyroid and whole body doses are updated as stated in 8.5 using the following method:
- 8.6.1 Complete the "Dose Projection Worksheet" (Table 1) as described under Sections 8.3 or 8.4, when available, computer output estimates of whole body and thyroid dose rates may be substituted for the manual calculation of these values.

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OFF-SITE DOSE CALCULATIONS

- 8.6.2 Update the "Cumulative Dose Distribution Worksheet" (Table 2) by adding the thyroid and whole body dose determined from 8.6.1 for each applicable sector/distance effected block to the integrated dose from event initiation to the present, when available, computer output estimates of whole body and thyroid integrated doses may be substituted for the manual calculations. Integrated doses for sector/distance blocks with zero estimated dose for the current hour remain unchanged.

NOTE: If a change, as defined in Section C.5, has occurred in less than an hour, prorate the previous hours calculation and adjust the integrated dose estimate, accordingly.

- 8.6.3 Projections of doses and dose rates should be made on the basis that the most recently estimated dose rates and their distribution will persist for two hours. Projecting dose rates for periods other than two hours should be made on an ad hoc basis using best available data on release rate estimates and subsequent meteorological conditions.

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OFF-SITE DOSE CALCULATIONS

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TABLE 1
DOSE PROJECTION WORKSHEET
(Sheet 1 of 2)

Date of Emergency: _____

Time of Emergency: _____

Time Period for which Dose Projection is
applicable: _____ To _____

METEOROLOGICAL DATA
(Use 15 minute averages)

TEN METER TOWER			SOUTH DADE TOWER		
RECORDER CHANNEL	PEN COLOR	FUNCTION	RECORDER CHANNEL	PEN COLOR	FUNCTION
A	Red	Primary Wind Speed _____ mph	D	Red	Back-up Wind Speed _____ mph
B	Black	Primary Wind Direction _____ degrees	E	Black	Back-up Wind Direction _____ degrees
C	Blue	Back-up Stability Sigma Theta (Instantaneous Value only) _____ degrees	F	Blue	Primary Stability Delta T _____ °F
Stability Class _____ (Table 3)			50 meters		

CASE I - EFFLUENT MONITORS AVAILABLE:

		A	B	C	D	E	F
Release Point		Monitor Reading (cpm)	(Ci/sec/cpm) Calibration Constant	VENTILATION FLOW CORRECTION FACTOR	Noble Gas Release Rate (Ci/sec)	Iodine Release Rate Factor	Iodine Release Rate (Ci/sec)
Plant Vent	R-14		2.8×10^{-7}				
	NMC		1.7×10^{-5}				
Unit 3 SFP Exh. NMC			4.9×10^{-6}				
Unit 3 Air Ejector(R-15)			3.5×10^{-10}				
Unit 4 Air Ejector(R-15)			3.7×10^{-10}				
SUM TOTAL							

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OFF-SITE DOSE CALCULATIONS

TABLE 1
 (Sheet 2 of 2)

DOSE PROJECTION WORKSHEET

CASE II: Actual measurements of release rates available from Nuclear Chemistry Department. Calculations performed as per 8.4 and results entered (and circled in the corrected Ci/Sec column for Case I above for applicable release pathway for Noble Gas or Iodine.

CASE III: Effluent Monitors Out of Commission and a LOCA has occurred. Calculate Release Rates from Containment High Range Radiation Monitors:

	From Figure 1 Core Fraction Airborne (CF)	From Figure 2 "R" Factor X Conversion Factor =		Release Rates (Ci/Sec)
Highest CHRRM Reading (R/hr):			10.2	Noble Gas
Hours since Reactor Trip:		1.0	0.11 with Safeguards	APPLICABLE IODINE
Hour line Used On:		1.0	0.63 w/o Safeguards	

Distance (Miles)	G		H		*I		*J
	Total Release (Ci/sec)		Values from Dose Rate Tables (5-11) [mRem/hr per 1Ci/sec]		Calculated Dose Rates (Multiply G x H) [mrem/hr]		DURATION (hour)
	Noble Gas	Iodine	Whole Body	Thyroid	Whole Body	Thyroid**	
1							
2							
5							
10							

Completed by: _____ Date _____ Time _____

* Refer to Table 12 to determine appropriate emergency classification.

** Adult Thyroid Dose Commitment - the accumulated dose body burden to an adult from inhalation of radioiodine for one hour duration.

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OFF-SITE DOSE CALCULATIONS

TABLE 2

CUMULATIVE DOSE DISTRIBUTION WORKSHEET

Time release assumed to occur: _____

Time through which this distribution applies: _____

Wind Direction (As Read)	Downwind Direction	Sector	Whole Body Dose (mrem)				*Thyroid Dose (mrem)			
			Downwind Distance (miles)				Downwind Distance (miles)			
			<u>1</u>	<u>2</u>	<u>5</u>	<u>10</u>	<u>1</u>	<u>2</u>	<u>5</u>	<u>10</u>
180	N	(A)								
202.5	NNE	(B)								
225	NE	(C)								
247.5	ENE	(D)								
270	E	(E)								
292.5	ESE	(F)								
315	SE	(G)								
337.5	SSE	(H)								
000	S	(J)								
022.5	SSW	(K)								
045	SW	(L)								
067.5	WSW	(M)								
090	W	(N)								
112.5	WNW	(P)								
135	NW	(Q)								
157.5	NNW	(R)								

* Adult Thyroid Dose Commitment - the accumulated dose body burden to an adult from inhalation of radioiodine for the calculated duration.

Completed by _____ Date _____ Time _____

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TABLE 3

PRIMARY SYSTEM

CLASSIFICATION OF ATMOSPHERIC STABILITY
BY TEMPERATURE CHANGE IN HEIGHT

<u>Stability Classification</u>	<u>Pasquill Categories</u>	<u>Temperature Change with Height (°F)</u>
Extremely unstable	A	$\Delta T < -1.6$
Moderately unstable	B	$-1.6 \leq \Delta T < -1.4$
Slightly unstable	C	$-1.4 \leq \Delta T < -1.3$
Neutral	D	$-1.3 \leq \Delta T < -0.4$
Slightly stable	E	$-0.4 \leq \Delta T < 1.3$
Moderately stable	F	$1.3 \leq \Delta T < 3.4$
Extremely stable	G	$3.4 \leq \Delta T$

BACKUP SYSTEM

CLASSIFICATION OF ATMOSPHERIC STABILITY BY USING
STANDARD DEVIATION OF WIND DIRECTION (SIGMA THETA)

<u>Stability Classification</u>	<u>Pasquill Categories</u>	<u>Sigma Theta Range (Degrees)</u>
Extremely unstable	A	22.5 or more
Moderately unstable	B	17.5 to 22.4
Slightly unstable	C	12.5 to 17.4
Neutral	D	7.5 to 12.4
Slightly stable	E	3.8 to 7.4
Moderately stable	F	2.1 to 3.7
Extremely stable	G	2.0 or less

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TABLE 4

DEFAULT VALUES FOR RADIOACTIVITY RELEASE RATES*

<u>Accident Type</u>	<u>Default Value</u>	
Loss of Coolant	0-2 hours after reactor trip	
(if effluent and containment high range monitors are not functional)	<u>Noble gases</u>	<u>Iodine</u>
	10.2	0.11
	2-8 hours after reactor trip	
	<u>Noble gases</u>	<u>Iodine</u>
	5.4	0.06
	more than 8 hours after reactor trip	
	<u>Noble gases</u>	<u>Iodine</u>
	1.6	0.02
Steam Generator Tube Rupture	Use this value until the affected steam generator is isolated	
	<u>Noble gases</u>	<u>Iodine</u>
	3.7	0.0022
Fuel Handling	Use this value for 15 minutes only	
	0.93 x number of damaged fuel bundles	0.003 x number of damaged fuel bundles

*All values in curies/sec

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OFF-SITE DOSE CALCULATIONS

TABLE 6

WHOLE BODY DOSE FOR STABILITY CLASS B - (MREM/HR), BASED ON A 1.0 CI/SEC EMISSION RATE

WIND SPEED (MPH)	DOWNWIND DISTANCE - MILES		DOWNWIND DISTANCE - MILES		DOWNWIND DISTANCE - MILES		DOWNWIND DISTANCE - MILES		DOWNWIND DISTANCE - MILES	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
0-2	7.58E+00	1.91E+00	9.43E-01	7.27E-01	5.95E-01	5.01E-01	4.31E-01	3.81E-01	3.41E-01	3.01E-01
2-4	2.53E+00	6.38E-01	2.84E-01	1.60E-01	1.10E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01
4-9	1.26E+00	3.19E-01	1.43E-01	9.09E-02	5.48E-02	5.08E-02	5.08E-02	5.08E-02	5.08E-02	5.08E-02
9-18	6.32E-01	1.60E-01	7.11E-02	4.00E-02	2.74E-02	2.34E-02	2.34E-02	2.34E-02	2.34E-02	2.34E-02
18-36	3.16E-01	7.98E-02	3.53E-02	2.00E-02	1.37E-02	1.27E-02	1.27E-02	1.27E-02	1.27E-02	1.27E-02

THYROID DOSE FOR STABILITY CLASS B - (MREM/HR), BASED ON A 1.0 CI/SEC EMISSION RATE

WIND SPEED (MPH)	DOWNWIND DISTANCE - MILES		DOWNWIND DISTANCE - MILES		DOWNWIND DISTANCE - MILES		DOWNWIND DISTANCE - MILES		DOWNWIND DISTANCE - MILES	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
0-2	2.13E+04	5.42E+03	2.47E+03	2.06E+03	1.63E+03	1.36E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03
2-4	7.18E+03	1.81E+03	8.05E+02	4.83E+02	3.11E+02	2.88E+02	2.88E+02	2.88E+02	2.88E+02	2.88E+02
4-9	3.58E+03	9.04E+02	4.03E+02	2.27E+02	1.63E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02
9-18	1.70E+03	4.52E+02	2.01E+02	1.13E+02	7.77E+01	7.19E+01	7.19E+01	7.19E+01	7.19E+01	7.19E+01
18-36	8.94E+02	2.26E+02	1.01E+02	5.67E+01	3.88E+01	3.60E+01	3.60E+01	3.60E+01	3.60E+01	3.60E+01

EMERGENCY PROCED_{DEC} 20126, PAGE 17
OFF-SITE DOSE CALCULATIONS

TABLE 7

WIND SPEED (MPH)	WHOLE BODY DOSE FOR STABILITY CLASS C - (MREM/HR), BASED ON A 1.0 CI/SEC EMISSION RATE									
	1.	2.	3.	4.	DOWNWIND DISTANCE - MILES					
					5.	6.	7.	8.	9.	10.
0-2	1.93E+01	8.87E+00	2.47E+00	1.88E+00	1.03E+00	1.30E+00	1.13E+00	1.08E+00	1.04E+00	1.02E+00
2-4	6.44E+00	1.84E+00	8.92E-01	5.30E-01	3.33E-01	2.85E-01	2.01E-01	1.91E-01	1.91E-01	1.91E-01
4-9	3.22E+00	9.28E-01	4.48E-01	2.65E-01	1.77E-01	1.27E-01	9.60E-02	9.10E-02	7.28E-02	6.41E-02
9-18	1.61E+00	4.64E-01	2.23E-01	1.32E-01	8.61E-02	1.35E-02	4.80E-02	4.05E-02	3.44E-02	3.31E-02
18-36	8.03E-01	2.32E-01	1.11E-01	6.62E-02	4.42E-02	3.17E-02	2.40E-02	2.03E-02	1.82E-02	1.65E-02

WIND SPEED (MPH)	THYROID DOSE FOR STABILITY CLASS C - (MREM/HR), BASED ON A 1.0 CI/SEC EMISSION RATE									
	1.	2.	3.	4.	DOWNWIND DISTANCE - MILES					
					5.	6.	7.	8.	9.	10.
0-2	5.47E+04	1.80E+04	7.57E+03	5.31E+03	4.34E+03	3.69E+03	3.20E+03	3.03E+03	3.03E+03	3.03E+03
2-4	1.82E+04	3.20E+03	2.82E+03	1.50E+03	1.00E+03	7.19E+02	5.68E+02	5.41E+02	5.41E+02	5.41E+02
4-9	9.12E+03	2.63E+03	1.28E+03	7.50E+02	5.00E+02	3.60E+02	2.72E+02	2.29E+02	2.05E+02	1.87E+02
9-18	4.56E+03	1.31E+03	6.31E+02	3.75E+02	2.50E+02	1.80E+02	1.34E+02	1.15E+02	1.03E+02	9.36E+01
18-36	2.28E+03	6.57E+02	3.16E+02	1.87E+02	1.25E+02	8.99E+01	6.80E+01	5.74E+01	5.10E+01	4.68E+01

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OFF-SITE DOSE CALCULATIONS

TABLE B

WHOLE BODY DOSE FOR STABILITY CLASS D - (MREM/HR), BASED ON A 1.0 CI/SEC EMISSION RATE

WIND SPEED (MPH)	1.	2.	3.	4.	DOWNWIND DISTANCE - MILES	5.	6.	7.	8.	9.	10.	11.	12.
0-2	3.92E+01	1.66E+01	9.34E+00	6.33E+00	4.66E+00	3.43E+00	2.92E+00	2.43E+00	2.06E+00	1.78E+00	1.57E+00	1.50E+00	1.50E+00
2-4	1.31E+01	5.38E+00	3.11E+00	2.11E+00	1.53E+00	1.21E+00	9.75E-01	8.09E-01	6.87E-01	5.93E-01	5.23E-01	4.90E-01	4.90E-01
4-9	7.74E+00	2.97E+00	1.68E+00	1.12E+00	8.17E-01	6.31E-01	5.07E-01	4.19E-01	3.54E-01	3.05E-01	2.68E-01	2.58E-01	2.58E-01
9-18	4.74E+00	1.69E+00	9.23E-01	6.03E-01	4.34E-01	3.32E-01	2.65E-01	2.18E-01	1.84E-01	1.56E-01	1.39E-01	1.32E-01	1.32E-01
18-24	2.37E+00	9.43E-01	4.61E-01	3.02E-01	2.17E-01	1.65E-01	1.33E-01	1.09E-01	9.19E-02	7.89E-02	6.93E-02	6.60E-02	6.60E-02

THYROID DOSE FOR STABILITY CLASS D - (MREM/HR), BASED ON A 1.0 CI/SEC EMISSION RATE

WIND SPEED (MPH)	1.	2.	3.	4.	DOWNWIND DISTANCE - MILES	5.	6.	7.	8.	9.	10.	11.	12.
0-2	1.11E+06	4.34E+04	2.45E+04	1.79E+04	1.32E+04	1.03E+04	8.28E+03	6.88E+03	5.83E+03	5.03E+03	4.44E+03	4.23E+03	4.23E+03
2-4	3.70E+04	1.51E+04	8.82E+03	5.97E+03	4.43E+03	3.42E+03	2.76E+03	2.29E+03	1.94E+03	1.68E+03	1.48E+03	1.41E+03	1.41E+03
4-9	2.19E+04	8.41E+03	4.77E+03	3.18E+03	2.31E+03	1.79E+03	1.43E+03	1.19E+03	1.00E+03	8.43E+02	7.40E+02	7.25E+02	7.25E+02
9-18	1.34E+04	4.77E+03	2.61E+03	1.71E+03	1.23E+03	9.42E+02	7.81E+02	6.18E+02	5.21E+02	4.47E+02	3.92E+02	3.74E+02	3.74E+02
18-24	6.71E+03	2.39E+03	1.31E+03	8.54E+02	6.13E+02	4.71E+02	3.76E+02	3.09E+02	2.60E+02	2.23E+02	1.94E+02	1.87E+02	1.87E+02

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OFF-SITE DOSE CALCULATIONS

TABLE 9

WHOLE BODY DOSE FOR STABILITY CLASS E - (MREM/HR), BASED ON A 1.0 CI/SEC EMISSION RATE

WIND SPEED (MPH)	1.	2.	3.	4.	DOWNWIND DISTANCE - MILES	5.	6.	7.	8.	9.	10.	11.	12.
0-2	8.98E+01	2.80E+01	1.78E+01	1.28E+01	9.83E+00	7.93E+00	6.40E+00	5.43E+00	4.80E+00	4.28E+00	3.83E+00	3.44E+00	
2-4	2.08E+01	9.34E+00	5.92E+00	4.23E+00	3.20E+00	2.64E+00	2.20E+00	1.87E+00	1.63E+00	1.43E+00	1.28E+00	1.13E+00	
4-9	1.34E+01	5.70E+00	3.43E+00	2.41E+00	1.82E+00	1.45E+00	1.19E+00	1.01E+00	8.68E-01	7.60E-01	6.74E-01	6.04E-01	
9-18	9.25E+00	3.52E+00	2.02E+00	1.37E+00	1.01E+00	7.93E-01	6.46E-01	5.41E-01	4.64E-01	4.04E-01	3.58E-01	3.18E-01	
18-36	4.42E+00	1.76E+00	1.01E+00	6.61E-01	5.06E-01	3.94E-01	3.23E-01	2.71E-01	2.32E-01	2.02E-01	1.78E-01	1.59E-01	

THYROID DOSE FOR STABILITY CLASS E - (MREM/HR), BASED ON A 1.0 CI/SEC EMISSION RATE

WIND SPEED (MPH)	1.	2.	3.	4.	DOWNWIND DISTANCE - MILES	5.	6.	7.	8.	9.	10.	11.	12.
0-2	1.70E+03	7.94E+04	5.03E+04	3.61E+04	2.78E+04	2.24E+04	1.87E+04	1.59E+04	1.38E+04	1.22E+04	1.08E+04	9.73E+03	
2-4	5.45E+04	2.65E+04	1.48E+04	1.20E+04	9.28E+03	7.48E+03	6.23E+03	5.31E+03	4.61E+03	4.00E+03	3.61E+03	3.25E+03	
4-9	3.01E+04	1.62E+04	9.76E+03	6.32E+03	5.15E+03	4.10E+03	3.38E+03	2.85E+03	2.46E+03	2.15E+03	1.91E+03	1.71E+03	
9-18	2.48E+04	9.98E+03	5.72E+03	3.87E+03	2.86E+03	2.25E+03	1.82E+03	1.53E+03	1.31E+03	1.14E+03	1.01E+03	9.01E+02	
18-36	1.31E+04	4.99E+03	2.84E+03	1.93E+03	1.43E+03	1.12E+03	9.15E+02	7.67E+02	6.56E+02	5.72E+02	5.05E+02	4.50E+02	

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OFF-SITE DOSE CALCULATIONS

TABLE 10

WHOLE BODY DOSE FOR STABILITY CLASS F - (INHEM/HR) BASED ON A 1.0 CI/SEC EMISSION RATE										
WIND SPEED (MPH)	1.	2.	3.	4.	DOWNWIND DISTANCE - MILES	5.	6.	7.	8.	9.
0-2	1.04E+02	5.40E+01	3.42E+01	2.71E+01	2.15E+01	1.77E+01	1.51E+01	1.30E+01	1.15E+01	1.02E+01
2-4	3.32E+01	1.80E+01	1.21E+01	8.32E+00	7.17E+00	6.02E+00	5.02E+00	4.32E+00	3.82E+00	3.41E+00
4-9	2.42E+01	1.19E+01	7.84E+00	5.42E+00	4.19E+00	3.30E+00	2.84E+00	2.42E+00	2.12E+00	1.87E+00
9-18	1.82E+01	7.65E+00	4.87E+00	3.17E+00	2.39E+00	1.91E+00	1.57E+00	1.32E+00	1.18E+00	1.01E+00
18-24	9.12E+00	3.82E+00	2.28E+00	1.55E+00	1.20E+00	9.82E-01	7.87E-01	6.67E-01	5.76E-01	5.02E-01

THYROID DOSE FOR STABILITY CLASS F - (INHEM/HR) BASED ON A 1.0 CI/SEC EMISSION RATE										
WIND SPEED (MPH)	1.	2.	3.	4.	DOWNWIND DISTANCE - MILES	5.	6.	7.	8.	9.
0-2	2.99E+03	1.52E+03	1.03E+03	7.67E+02	6.69E+02	5.02E+02	4.27E+02	3.70E+02	3.25E+02	2.90E+02
2-4	9.94E+02	5.10E+02	3.42E+02	2.56E+02	2.03E+02	1.68E+02	1.42E+02	1.22E+02	1.08E+02	9.67E+01
4-9	7.42E+02	3.38E+02	2.12E+02	1.63E+02	1.19E+02	9.61E+01	8.04E+01	6.88E+01	6.00E+01	5.30E+01
9-18	5.17E+02	2.17E+02	1.29E+02	8.98E+01	6.70E+01	5.40E+01	4.46E+01	3.78E+01	3.26E+01	2.87E+01
18-24	2.69E+02	1.08E+02	6.47E+01	4.49E+01	3.39E+01	2.70E+01	2.23E+01	1.92E+01	1.62E+01	1.42E+01

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OFF-SITE DOSE CALCULATIONS

TABLE 11

WHOLE BODY DOSE FOR STABILITY CLASS 6 - (MREM/HR), BASED ON A 1.0 CI/SEC EMISSION RATE

WIND SPEED (MPH)	1.	2.	3.	4.	DOWNWIND DISTANCE MILES	5.	6.	7.	8.	9.	10.	11.	12.
0-2	1.44E+02	6.42E+01	6.74E+01	8.31E+01	4.37E+01	3.72E+01	3.24E+01	2.87E+01	2.57E+01	2.32E+01	2.12E+01	1.94E+01	1.78E+01
2-4	8.32E+01	3.14E+01	2.25E+01	1.77E+01	1.44E+01	1.24E+01	1.08E+01	9.35E+00	8.04E+00	7.04E+00	6.32E+00	5.68E+00	5.12E+00
4-9	4.78E+01	2.38E+01	1.88E+01	1.48E+01	1.20E+01	1.04E+01	9.04E+00	7.84E+00	6.84E+00	6.04E+00	5.32E+00	4.72E+00	4.16E+00
9-18	3.26E+01	1.57E+01	9.97E+00	7.18E+00	5.53E+00	4.80E+00	3.78E+00	3.24E+00	2.82E+00	2.52E+00	2.22E+00	1.96E+00	1.72E+00
18-36	1.43E+01	7.87E+00	4.98E+00	3.59E+00	2.78E+00	2.40E+00	1.80E+00	1.62E+00	1.42E+00	1.24E+00	1.12E+00	1.02E+00	0.92E+00

THYROID DOSE FOR STABILITY CLASS 6 - (MREM/HR), BASED ON A 1.0 CI/SEC EMISSION RATE

WIND SPEED (MPH)	1.	2.	3.	4.	DOWNWIND DISTANCE MILES	5.	6.	7.	8.	9.	10.	11.	12.
0-2	4.70E+03	2.47E+03	1.91E+03	1.50E+03	1.24E+03	1.05E+03	9.17E+02	8.12E+02	7.27E+02	6.59E+02	6.02E+02	5.54E+02	5.12E+02
2-4	1.57E+03	8.89E+02	6.30E+02	5.01E+02	4.13E+02	3.51E+02	3.06E+02	2.71E+02	2.42E+02	2.20E+02	2.02E+02	1.86E+02	1.72E+02
4-9	1.35E+03	6.74E+02	4.48E+02	3.34E+02	2.65E+02	2.20E+02	1.87E+02	1.63E+02	1.44E+02	1.28E+02	1.16E+02	1.06E+02	0.96E+02
9-18	9.22E+02	4.48E+02	2.82E+02	2.03E+02	1.57E+02	1.26E+02	1.07E+02	9.18E+01	8.04E+01	7.12E+01	6.30E+01	5.70E+01	5.12E+01
18-36	4.61E+02	2.23E+02	1.41E+02	1.02E+02	7.86E+01	6.30E+01	5.30E+01	4.50E+01	4.01E+01	3.54E+01	3.19E+01	2.89E+01	2.62E+01

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OFF-SITE DOSE CALCULATIONS

TABLE 12

ACTION GUIDELINES

For the Containment High Range Radiation Monitor (CHRRM)

CHRRM	$\geq 1.3 \text{ E } 5\text{R/hr}$	General Emergency
CHRRM	$\leq 1.3 \text{ E } 4\text{R/hr}$	Site Area Emergency
CHRRM	$\leq 10 \text{ R/hr}$	Negligible

For Noble Gas Release Rates (i.e., Ci/sec from the Site):

Gas. Rel. Rate	$< 0.067 \text{ Ci/sec}$	Within Technical Specification - No Action
Gas. Rel. Rate	≥ 0.067 but less than 0.67 Ci/sec	Unusual Event - Tech. Spec. possibly exceeded See ETS-8 and take steps to reduce rate
Gas. Rel. Rate	$\geq 0.67 \text{ Ci/sec}$	ALERT CLASSIFICATION

For Dose Rate Results:

CASE	INSTANTANEOUS	OR DURATION FOR 2 MINUTES OF:	OR DURATION FOR 1/2 HOUR OF:	SITUATION
If Whole Body at 1 mile is:	N/A	$\geq 500 \text{ mRem/hr}$	$\geq 50 \text{ mRem/hr}$	Site Area Emergency
If Whole Body at 1 mile is:	$> 1000 \text{ mRem/hr}$	N/A	N/A	General Emergency
If Whole Body at 1 mile is:	N/A	$\geq 2500 \text{ mRem/hr}$	$\geq 250 \text{ mRem/hr}$	Site Area Emergency

For Cumulative Thyroid Integrated Dose:

If Thyroid Integrated Dose at 1 Mile Using Actual Met Data	$> 5000 \text{ mRem}$	then	General Emergency
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OFF-SITE DOSE CALCULATIONS

APPENDIX A
BACKUP METEOROLOGY WORKSHEET

In the event data is unavailable from the meteorological strip chart recorder, use the following procedure:

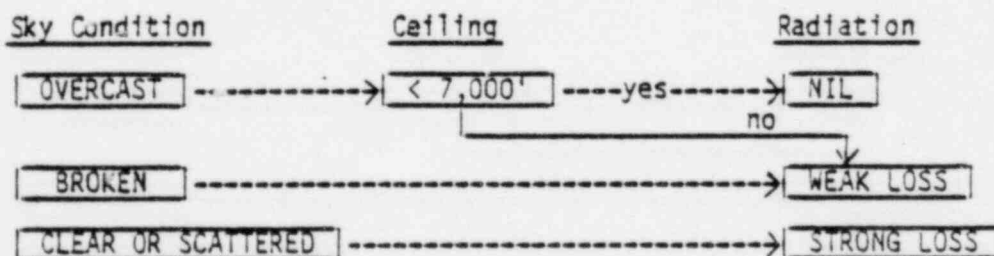
A. GATHER DATA

1. Date: _____ Time: _____
2. Phone Homestead AFB Weather 9-257-7545 (alternately, use red hot line to Homestead AFB, ask to be connected to weather station).
3. Copy current weather:

Time of observation: _____	Eastern	} Standard } Time Daylight }
Wind Direction: _____	Degrees	
Wind Speed: _____	Knots	
Sky Condition:	Clear or	
	Scattered _____	
	Broken _____	
	Overcast _____	
If broken or over-cast copy ceiling height: _____ Ft.		
4. If daytime (1 hour after sunrise to 1 hour before sunset) go to Section C (next page). NOTE: See Table I for sunrise/sunset times.

B. NIGHTTIME CALCULATIONS

1. Determine Solar Radiation Characteristics:



2. Choose Stability Category (D through G)

Solar Radiation	Wind Speed (knots)								
	0,1	2,3	4,5	6	7	8,9	10	11	>11
Nil	D	D	D	D	D	D	D	D	D
Weak Loss	F	F	E	E	D	D	D	D	D
Strong Loss	G	G	F	F	E	E	E	D	D

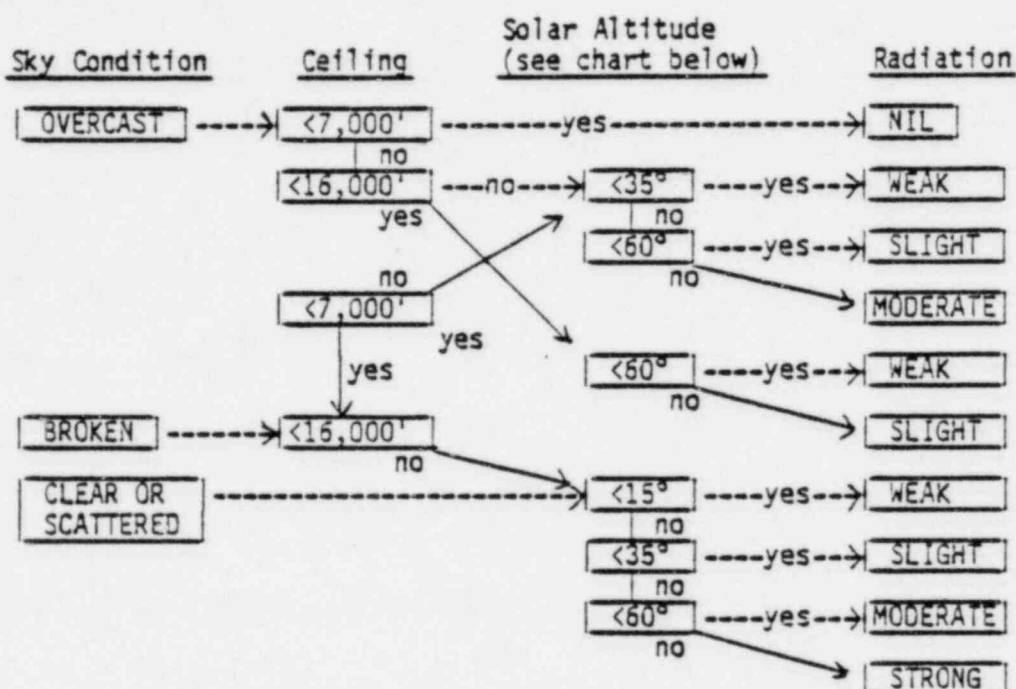
3. Go to Section D

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OFF-SITE DOSE CALCULATIONS

APPENDIX A (cont'd)
BACKUP METEOROLOGY WORKSHEET
TURKEY POINT PLANT

C. DAYTIME CALCULATIONS:

1. Determine solar altitude (angle of sun above horizon) using Figure 1.
2. Determine Solar Radiation Characteristics:



3. Choose Stability Category (A through D)

Solar Radiation	Wind Speed (Knots)								
	0,1	2,3	4,5	6	7	8,9	10	11	>11
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. INPUT TO DOSE CALCULATION SYSTEM (TABLE 1)

1. Wind Direction (From Step A.3) _____ degrees

2. Wind Speed

1.15 x _____ (Knots) = _____ mph

3. Atmospheric Stability

(From Step B.2 or C.3)

(Circle One):

A B C D E F G

TABLE 1
SUNRISE AND SUNSET AT MIAMI, FLORIDA
EASTERN STANDARD TIME

NO. 1068

DAY	JAN.		FEB.		MAR.		APR.		MAY		JUNE		JULY		AUG.		SEPT.		OCT.		NOV.		DEC.		
	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	
1	7 08	5 41	7 05	6 04	6 44	6 22	6 12	6 37	5 44	6 52	5 29	7 08	5 33	7 12	5 47	7 07	6 01	6 40	6 13	6 08	6 29	5 39	6 50	5 29	
2	7 08	5 42	7 04	6 05	6 43	6 23	6 11	6 38	5 43	6 52	5 29	7 08	5 33	7 16	5 47	7 06	6 01	6 39	6 13	6 07	6 30	5 39	6 51	5 29	
3	7 08	5 43	7 04	6 06	6 42	6 23	6 10	6 38	5 43	6 53	5 29	7 09	5 33	7 16	5 48	7 06	6 02	6 38	6 14	6 06	6 30	5 38	6 52	5 29	
4	7 09	5 43	7 03	6 07	6 41	6 24	6 09	6 39	5 42	6 53	5 29	7 09	5 34	7 16	5 48	7 05	6 02	6 37	6 14	6 04	6 31	5 37	6 52	5 29	
5	7 09	5 44	7 03	6 07	6 40	6 25	6 08	6 39	5 41	6 54	5 29	7 10	5 34	7 16	5 49	7 04	6 02	6 36	6 15	6 03	6 32	5 37	6 53	5 30	
6	7 09	5 45	7 02	6 08	6 39	6 25	6 07	6 40	5 41	6 54	5 29	7 10	5 35	7 16	5 49	7 04	6 03	6 35	6 15	6 02	6 32	5 36	6 54	5 30	
7	7 09	5 45	7 02	6 09	6 39	6 26	6 06	6 40	5 40	6 55	5 29	7 10	5 35	7 16	5 50	7 03	6 03	6 34	6 15	6 01	6 33	5 36	6 54	5 30	
8	7 09	5 46	7 01	6 09	6 38	6 26	6 05	6 41	5 39	6 55	5 29	7 11	5 35	7 16	5 50	7 02	6 04	6 33	6 16	6 00	6 34	5 35	6 55	5 30	
9	7 09	5 47	7 00	6 10	6 36	6 27	6 04	6 41	5 39	6 56	5 29	7 11	5 36	7 16	5 51	7 01	6 04	6 32	6 16	5 59	6 34	5 35	6 56	5 30	
10	7 09	5 48	7 00	6 11	6 35	6 27	6 03	6 41	5 38	6 57	5 29	7 12	5 36	7 16	5 51	7 01	6 04	6 31	6 17	5 50	6 35	5 34	6 56	5 31	
11	7 09	5 48	6 59	6 11	6 34	6 28	6 02	6 42	5 37	6 57	5 29	7 12	5 37	7 15	5 52	7 00	6 05	6 30	6 17	5 57	6 36	5 34	6 57	5 31	
12	7 09	5 49	6 58	6 12	6 33	6 28	6 01	6 42	5 37	6 58	5 29	7 12	5 37	7 15	5 52	6 59	6 05	6 28	6 18	5 56	6 36	5 33	6 58	5 31	
13	7 09	5 50	6 58	6 13	6 32	6 29	6 00	6 43	5 36	6 58	5 29	7 13	5 38	7 15	5 53	6 58	6 06	6 27	6 18	5 55	6 37	5 33	6 58	5 31	
14	7 09	5 51	6 57	6 13	6 31	6 29	5 59	6 43	5 36	6 59	5 29	7 13	5 38	7 15	5 53	6 57	6 06	6 26	6 19	5 54	6 38	5 32	6 59	5 32	
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16	7 09	5 52	6 55	6 15	6 29	6 30	5 57	6 44	5 35	7 00	5 29	7 14	5 39	7 14	5 54	6 56	6 07	6 24	6 20	5 52	6 39	5 32	7 00	5 33	
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18	7 09	5 54	6 54	6 16	6 27	6 31	5 55	6 45	5 34	7 01	5 29	7 14	5 40	7 14	5 55	6 54	6 08	6 22	6 21	5 51	6 41	5 31	7 01	5 33	
19	7 09	5 55	6 53	6 17	6 26	6 31	5 54	6 46	5 33	7 01	5 29	7 14	5 40	7 13	5 55	6 53	6 08	6 21	6 21	5 50	6 41	5 31	7 02	5 34	
20	7 09	5 55	6 52	6 17	6 25	6 32	5 53	6 46	5 33	7 02	5 30	7 15	5 41	7 13	5 56	6 52	6 08	6 20	6 22	5 49	6 42	5 30	7 02	5 34	
21	7 09	5 56	6 51	6 18	6 24	6 32	5 53	6 47	5 32	7 02	5 30	7 15	5 41	7 12	5 56	6 51	6 09	6 19	6 23	5 48	6 43	5 30	7 03	5 35	
22	7 08	5 57	6 51	6 18	6 23	6 33	5 52	6 47	5 32	7 03	5 30	7 15	5 42	7 12	5 57	6 50	6 09	6 17	6 23	5 47	6 44	5 30	7 03	5 35	
23	7 08	5 58	6 50	6 19	6 22	6 33	5 51	6 48	5 32	7 03	5 30	7 15	5 42	7 12	5 57	6 49	6 10	6 16	6 24	5 46	6 44	5 30	7 04	5 36	
24	7 08	5 58	6 49	6 20	6 21	6 34	5 50	6 48	5 31	7 04	5 31	7 15	5 43	7 11	5 57	6 48	6 10	6 15	6 24	5 45	6 43	5 30	7 04	5 36	
25	7 07	5 59	6 48	6 20	6 20	6 34	5 49	6 49	5 31	7 04	5 31	7 16	5 43	7 11	5 58	6 47	6 10	6 14	6 25	5 45	6 46	5 30	7 05	5 37	
26	7 07	6 00	6 47	6 21	6 19	6 35	5 46	6 49	5 31	7 05	5 31	7 16	5 44	7 10	5 58	6 46	6 11	6 13	6 25	5 44	6 47	5 29	7 05	5 37	
27	7 07	6 01	6 46	6 21	6 18	6 35	5 47	6 50	5 30	7 05	5 31	7 16	5 44	7 10	5 59	6 45	6 11	6 12	6 26	5 43	6 47	5 29	7 06	5 38	
28	7 06	6 01	6 45	6 22	6 17	6 36	5 47	6 50	5 30	7 06	5 32	7 16	5 45	7 09	5 59	6 44	6 12	6 11	6 27	5 42	6 48	5 29	7 06	5 39	
29	7 06	6 02	6 45	6 22	6 16	6 36	5 46	6 51	5 30	7 06	5 32	7 16	5 45	7 09	6 00	6 43	6 12	6 10	6 27	5 42	6 49	5 29	7 06	5 39	
30	7 06	6 03			6 14	6 36	5 45	6 51	5 30	7 07	5 32	7 16	5 46	7 08	6 00	6 42	6 12	6 09	6 28	5 41	6 49	5 29	7 07	5 40	
31	7 05	6 04			6 13	6 37			5 29	7 07			5 46	7 07	6 00	6 41			6 28	5 40				7 07	5 40

* Add one hour for Daylight Saving Time if and when in use.

E. W. Woolard
E. W. WOOLARD
Director Nautical Almanac
U. S. Naval Observatory

I certify that the above data are the result of an accurate and true computation by the Nautical Almanac Office, United States Naval Observatory, an agency charged by Federal Statute (9 Stat. L. 374, 375) with the duty of making such computations and publishing the results.

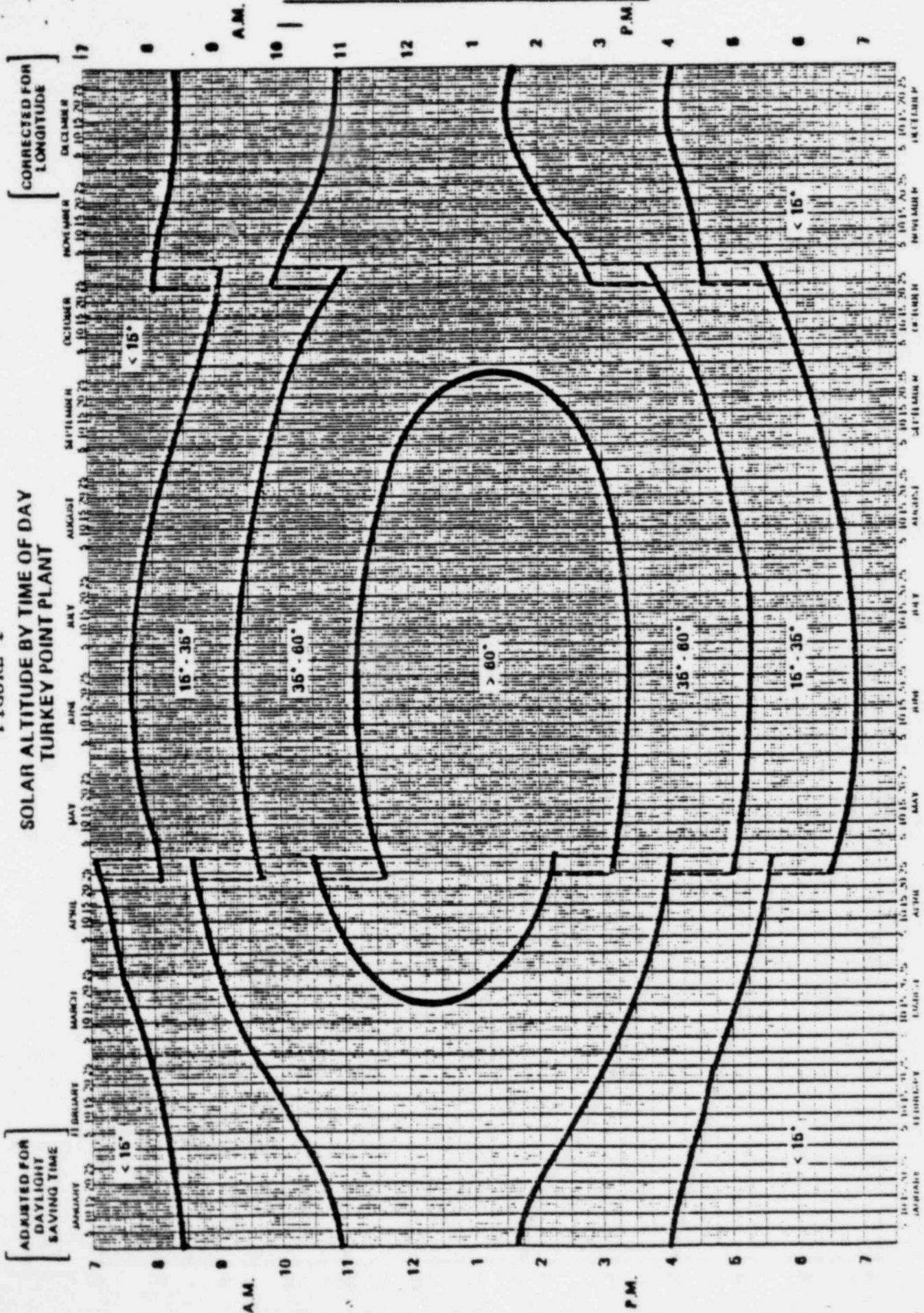
C. G. Christie
C. G. CHRISTIE
Captain, USN
Superintendent
U. S. Naval Observatory

EMERGENCY PROCEDURE 20126, PAGE 25
OFF-SITE DOSE CALCULATIONS

3/8/82

3/8/82

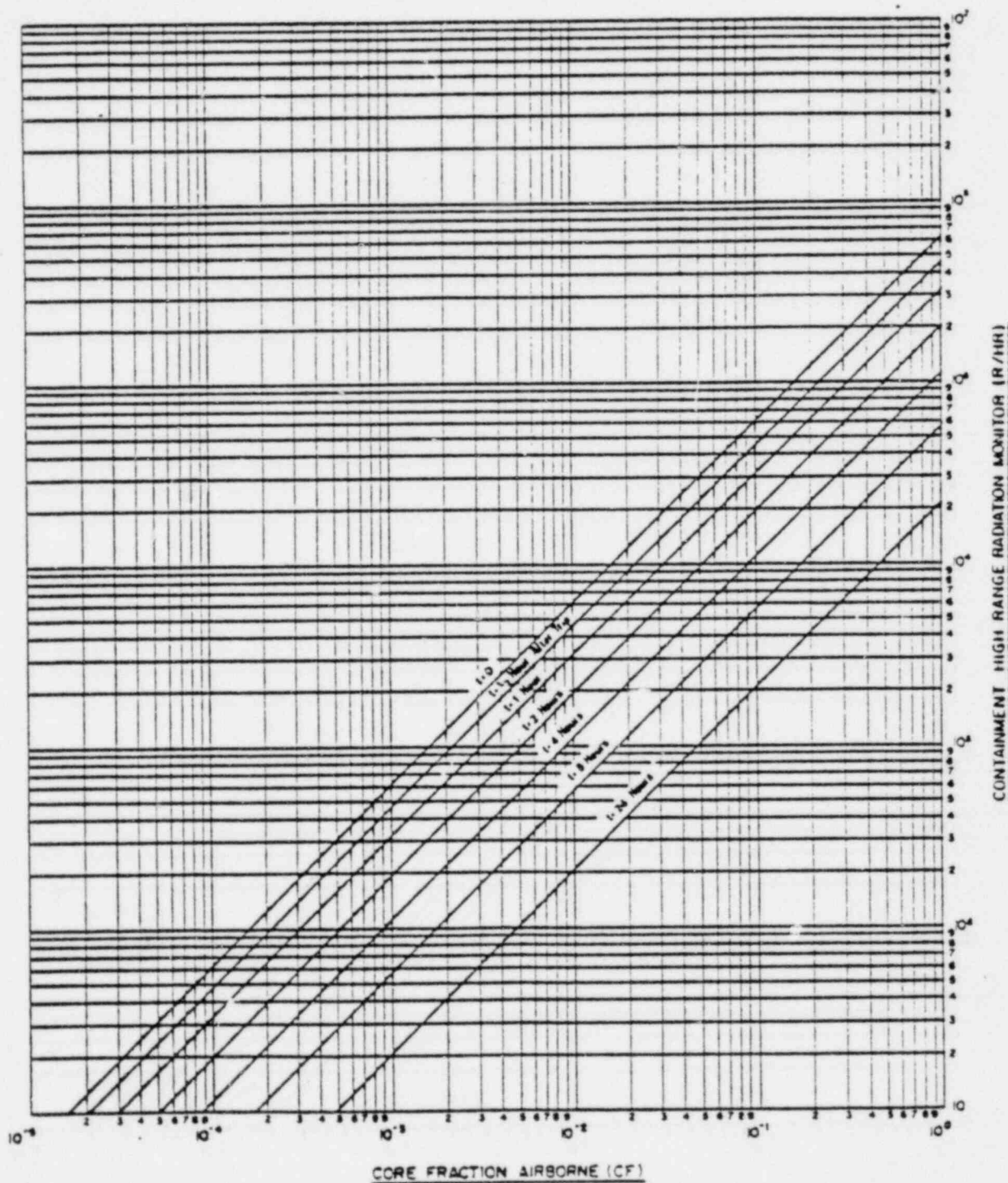
FIGURE 1
SOLAR ALTITUDE BY TIME OF DAY
TURKEY POINT PLANT



3/8/82

EMERGENCY PROCEDURE 20126, PAGE 27
OFF-SITE DOSE CALCULATIONS

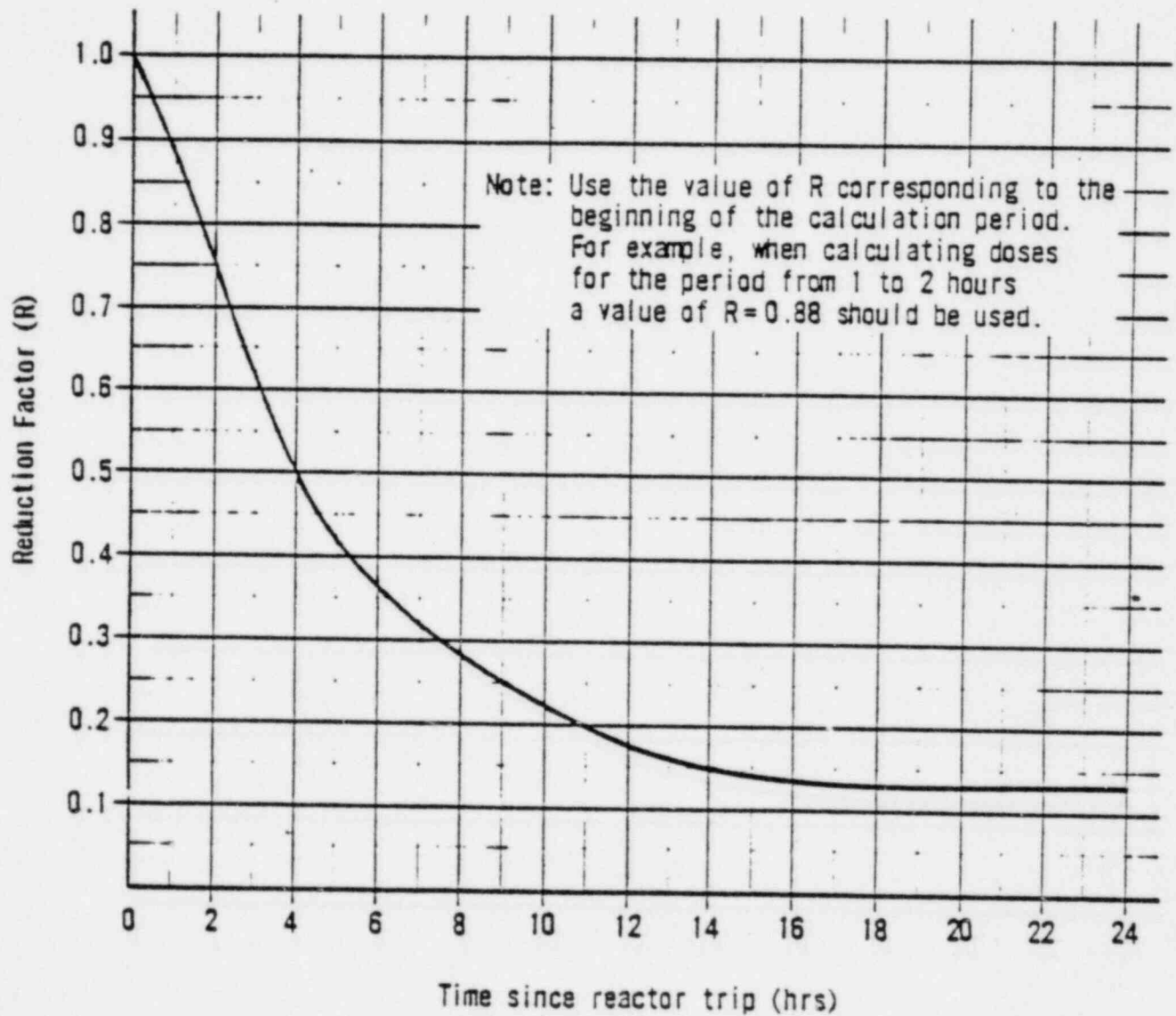
FIGURE 1
CORE FRACTION AIRBORNE



3/8/82

NOBLE GAS REDUCTION FACTOR

Figure 2



FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT UNITS 3 AND 4
EMERGENCY PROCEDURE 20113
FEBRUARY 25, 1982

1.0 Title:

MAINTAINING EMERGENCY PREPAREDNESS - EMERGENCY EXERCISES, DRILLS, TESTS, AND EVALUATIONS.

2.0 Approval and List of Effective Pages:

2.1 Approval:

Change dated 2/25/82 Reviewed by PNSC February 25, 1982

Approved by *[Signature]* Plant Mgr-Nuclear, March 4, 1982

Approved by *[Signature]* Vice President of
Nuclear Energy 3-9 1982

2.2 List of Effective Pages :

<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>
1	2/25/82	3	3/26/81	5	3/26/81
2	3/26/81	4	2/25/82		

3.0 Scope:

3.1 Purpose:

This procedure provides instructions for conducting periodic emergency exercises, drills, and tests.

3.2 Discussion:

Periodic exercises and drills will be conducted in order to test the state of emergency preparedness of participating personnel, organizations, and agencies. Each exercise or drill will be conducted to:

- 3.2.1 Ensure that participants are familiar with their respective duties and responsibilities.
- 3.2.2 Verify the adequacy of the Emergency Plan and emergency procedures.
- 3.2.3 Test the communication network and systems.
- 3.2.4 Check the availability of emergency supplies and equipment.
- 3.2.5 Verify the operability of emergency equipment.

EMERGENCY PROCEDURE 20113, PAGE 2
MAINTAINING EMERGENCY PREPAREDNESS -
EMERGENCY EXERCISES, DRILLS, TESTS, AND EVALUATIONS

The results of the exercises will form the basis for corrective action to eliminate identified deficiencies, and will be discussed during a post-exercise evaluation.

3.3 Authority:

This procedure implements the Turkey Point Plant Radiological Emergency Plan.

4.0 Precautions:

- 4.1 Every emergency alarm or announcement shall be assumed to be true unless an announcement is made to the contrary.

5.0 Responsibilities:

- 5.1 The FPL Emergency Plan Administrator shall be responsible for planning, scheduling, and coordinating all major emergency drills or exercises involving off site agencies. When an exercise is to be conducted, the Emergency Plan Administrator shall:

5.1.1 Schedule a date for the exercise in coordination with the Plant Manager-Nuclear and the primary State and county emergency response agencies.

5.1.2 Coordinate all FPL efforts with outside organizations and agencies.

5.1.3 Obtain the approval of the Plant Manager-Nuclear.

5.1.4 Prepare a letter or report containing an evaluation of the exercise.

- 5.2 The Operations Superintendent-Nuclear shall be responsible for planning, scheduling, and coordinating all onsite emergency drills. When a drill is to be conducted, he shall:

5.2.1 Schedule a date for the drill in coordination with the Plant Manager-Nuclear.

5.2.2 Assure that a scenario is prepared.

5.2.3 Assign observers for specific portions of the drill.

5.2.4 Obtain the approval of the Plant Manager-Nuclear.

5.2.5 Discuss and evaluate the exercise with observers and principal participants.

5.2.6 Ensure that for all identified deficiencies corrective measures are recommended.

5.2.7 Prepare a letter or report of the drill containing an evaluation of the drill.

EMERGENCY PROCEDURE 20113, PAGE 3
MAINTAINING EMERGENCY PREPAREDNESS -
EMERGENCY EXERCISES, DRILLS, TESTS, AND EVALUATIONS

5.3 When an exercise or a major drill is to be conducted, the Plant Manager-Nuclear shall assure that the following is accomplished:

- 5.3.1 Assign personnel to prepare a scenario.
- 5.3.2 Coordinate through the Emergency Plan Administrator all activities which involve off-site personnel organizations or agencies.
- 5.3.3 Schedule a date for this activity in coordination with the Emergency Plan Administrator and assign observers.
- 5.3.4 Review evaluations of exercise or drill with the observers and the Plant Nuclear Safety Committee (PNSC).
- 5.3.5 Ensure that deficiencies which are identified are addressed with corrective measures.

These exercises and drills will simulate emergency conditions and may be scheduled such that two or more exercises or drills are conducted simultaneously.

6.0 References

- 6.1 Turkey Point Plant Radiological Emergency Plan
- 6.2 NUREG 0654

7.0 Records and Notifications

- 7.1 Log Entries
- 7.2 Written evaluation to PNSC, Plant Manager-Nuclear, and Emergency Plan Administrator by the Operations Superintendent-Nuclear.

8.0 Instructions

8.1 The following emergency exercises, drills, and tests shall be conducted at the frequency indicated:

8.1.1 Exercises (Integrated Drills)

A major radiological emergency response exercise shall be conducted annually to demonstrate the effectiveness of the Emergency Plan. This exercise shall be conducted as a Site Area Emergency or General Emergency and will provide for the coordination with and participation of off-site emergency response personnel organizations and agencies including those of federal, state, and local governments. The emergency scenario shall be varied from year to year. Provisions shall be made to start at least one exercise between 6:00 p.m. and midnight, and at least one exercise between midnight and 6:00 a.m., every six years.

This emergency response exercise shall be critiqued by Florida Power and Light Company observers/evaluators.

EMERGENCY PROCEDURE 20113, PAGE 4
MAINTAINING EMERGENCY PREPAREDNESS -
EMERGENCY EXERCISES, DRILLS, TESTS, AND EVALUATIONS

8.1.2 Radiological Monitoring Drill

A radiological monitoring drill shall be conducted annually. These drills will include collection and analysis of sample media (e.g. water, air).

8.1.3 Health Physics Drills

The Health Physics Department shall conduct health physics drills semi-annually and one of the semi-annual drills may be incorporated into the radiological monitoring drill.

8.1.4 Medical Emergency Drill

A medical emergency drill involving a simulated contaminated individual, with provisions for activation of the plant First Aid and Personnel Decontamination Team and participation by local support services (i.e., ambulance and off-site medical treatment facility), shall be conducted annually.

8.1.5 Fire Emergency Drill

Fire drills are conducted in accordance with 10 CFR 50, Appendix R and Technical Specifications.

8.1.6 Communications Tests

Communications with the Bureau of Disaster Preparedness, Department of Health and Rehabilitative Services, and Dade and Monroe County Disaster Preparedness Coordinators will be tested monthly.

8.2 Conducting Drills

8.2.1 Prior to commencing each drill, the Nuclear Plant Supervisor (NPS) shall evaluate the plant conditions and ascertain that the drill will not adversely affect plant equipment or operations.

8.2.2 The Operations Superintendent-Nuclear shall designate specific members of the plant staff to act as observers during the drill.

These observers shall be posted where appropriate in the plant area to observe and record the actions of plant personnel during the drill and to verify alarm audibility and/or visibility.

8.2.3 After receiving a signal or alarm indicating that an emergency condition exists, which has been initiated as part of the drill, the NPS shall take action as required by the Emergency Plan.

8.2.4 At the termination of the drill, the NPS shall announce over the PA system that the drill is over. This shall be repeated along with any required instructions.

EMERGENCY PROCEDURE 20113, PAGE 5
MAINTAINING EMERGENCY PREPAREDNESS -
EMERGENCY EXERCISES, DRILLS, TESTS, AND EVALUATIONS

8.3 Evaluation of Drills and Exercises

- 8.3.1 Following a drill the Operations Superintendent-Nuclear shall assimilate all information and data concerning the emergency procedure drill and hold a critique on the drill with the PNSC.

The PNSC shall recommend changes to the Emergency Procedures as necessary.

- 8.3.2 Following an exercise, the plant management, FPL observers and principal participants in the exercise will meet to discuss and evaluate the exercise.

The evaluation shall be based on the ability of participants to follow emergency procedures, the adequacy of emergency procedures, and the adequacy of emergency equipment and supplies. Plant management shall be responsible for any necessary changes in the Plant Emergency Procedures and for recommending changes in the Emergency Plan to the Emergency Plan Administrator.

FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT UNITS 3 AND 4
EMERGENCY PROCEDURE 20107
FEBRUARY 8, 1982

1.0 Title:

FIRE/EXPLOSION EMERGENCIES

2.0 Approval and List of Effective Pages:

2.1 Approval:

Change dated 2/8/82 Reviewed by PNSC February 8, 1982

Approved by J. J. Hayes Plant Mgr-Nuc March 2, 1982

Approved by William J. Sullivan Vice President of Nuclear Energy 3-8 1982

2.2 List of Effective Pages:

<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>
1	2/8/82	3	1/21/82	5	2/8/82	7	1/21/82
2	3/13/81	4	1/21/82	6	1/21/82	8	1/21/82

3.0 Scope:

3.1 Purpose:

This procedure provides instructions to control and extinguish fires, to minimize equipment damage from fires or explosions and to prevent personnel injuries.

3.2 Discussion:

3.2.1 The Fire Team is composed of five individuals who are qualified in accordance with Administrative Procedure 15500, Fire Protection Program. The fire team members are personnel from the Operations, Health Physics, and Nuclear Chemistry Departments.

3.2.2 Those personnel initiating and conducting fire drills shall: Notify the Control Room by calling 260 on the PAX phone, announce "This is a drill. This is a drill", give location and classification of simulated fire/explosion, report any simulated injuries and the extent of damage to plant components.

3.2.3 The emergency classification system (see Emergency Procedure 20103, Classification of Emergencies) includes certain fires and explosions. Hence, each fire or explosion shall be evaluated by the Nuclear Plant Supervisor/Emergency Coordinator to determine if it constitutes an unusual event, an alert, or a site area emergency.

3/13/81

3.3 Authority:

Technical Specification 6.8.1

Facility Operating Licenses DPR-31, Section III, G, and DPR-41,
Section III F.

Letter from A. Schwencer of NRC to R. E. Uhrig dated 3/21/79 (NRC Safety
Evaluation Report for Fire Protection)

10 CFR 50, Appendix R

10 CFR 50.48

Turkey Point Plant Emergency Plans

3.4 Definitions:

The terms that must be familiar to the user in order to fully implement
this procedure are as follows:

3.4.1 Class "A" Fires

Class "A" fires are ordinary combustible fires in such materials as
wood, paper, cloth, or rubber.

3.4.2 Class "B" Fires

Class "B" fires are fires in flammable liquids, gases, and greases.

3.4.3 Class "C" Fires

Class "C" fires are fires which involve "energized" electrical
equipment. (Where electrical equipment is de-energized,
extinguishers for Class "A" or "B" fires may be used).

3.4.4 Class "D" Fires

Class "D" fires are fires in combustible metals such as magnesium,
titanium, zirconium, sodium and potassium.

4.0 Precautions:

4.1 Water in the vicinity of high voltage electrical equipment may constitute
a life hazard to personnel due to the electrical conductivity of water.
Water hoses should be operated with a fog pattern only and at a distance
of 10 feet or more from any energized electrical equipment.

4.2 Portable multipurpose dry chemical extinguishers may be used on the
following class fires:

1. Class "A"
2. Class "B"
3. Class "C"

4.3 Portable carbon dioxide fire extinguishers may be used on the following
class fires:

1. Class "B"
2. Class "C"

- 4.4 AFFF foam shall be used only on Class "B" fires, where energized electrical equipment is not present.
- 4.5 The installed Halon 1301 gas system in Document Control is safe as installed. However, the discharge of Halon 1301 may create hazards to personnel such as dizziness, impaired coordination, reduced visibility and exposure to toxic decomposition products. For this reason personnel should leave the area immediately. Self-contained breathing apparatus is required to re-enter the area until the building is ventilated.

5.0 Responsibilities:

- 5.1 It shall be the responsibility of the Fire Team Leader (normally the Nuclear Watch Engineer) to:
 - 5.1.1 At the beginning of the shift verify the on-site availability of four qualified Fire Team Members in addition to himself. Normally, the four members will be the Nuclear Operator, the Nuclear Turbine Operator, a Radiation Protection Man, and a Lab Technician.
 - 5.1.2 Direct all phases of the fire fighting activities.
 - 5.1.3 Communicate the status of the fire and fire fighting activity to the Emergency Coordinator.
 - 5.1.4 Coordinate the activities of any outside fire fighting organization called in to assist with the emergency.
- 5.2 It shall be the responsibility of each Fire Team member to be thoroughly familiar with the contents of this procedure and the location of fire fighting equipment in the plant.
- 5.3 The Plant Manager-Nuclear shall designate in writing an individual(s) to verify through regular inspections that all fire fighting equipment and supplies are in good condition and operable.
- 5.4 For a fire, it shall be the responsibility of the Brigade leader to complete the attached fire report (Appendix B).
- 5.5 For a fire drill, the person conducting the drill (normally from the Training Department) is responsible for completing the drill evaluation sheet.
- 5.6 The Nuclear Plant Supervisor/Emergency Coordinator is responsible for classifying fires and explosions as unusual events, alerts, or site area emergencies in accordance with Emergency Procedure 20103, Classification of Emergencies.

6.0 References:

- 6.1 Turkey Point Plant Emergency Plans
- 6.2 Final Safety Analysis Report (FSAR)
- 6.3 10 CFR 50, Appendix R
- 6.4 10 CFR 50.48

7.0 Records:

- 7.1 Log entries in Nuclear Plant Supervisor's Log Book
- 7.2 Completed [Fire Reports and Drill] evaluation sheets constitute Quality Assurance Records and, therefore, shall be retained in accordance with Administrative Procedure 0190.14, Document Control and Quality Assurance Records.

8.0 Instructions:

- 8.1 When an individual discovers a fire which can be safely extinguished using fire fighting equipment at hand, he shall do so and then promptly notify the Nuclear Plant Supervisor or the appropriate control room.
- 8.2 When an individual discovers a fire or explosion resulting in a fire which cannot be extinguished using fire fighting equipment at hand, he shall notify the Nuclear Plant Supervisor or the appropriate control room over the PA system or by dialing 260 on any PAX telephone. The following information should be given:
 - 8.2.1 Location of the fire or explosion.
 - 8.2.2 Type of fire or explosion, if known.
 - 8.2.3 Whether or not there are any injured personnel.
 - 8.2.4 Extent of damage to plant components.

NOTE: Speed in notification is much more important than the completeness of the initial report.

- 8.3 The Nuclear Plant Supervisor or the control room operator contacted shall instruct the individual to take any immediate action he is qualified to perform to extinguish the fire.

NOTE: In the case of the control room receiving the notification, the individual receiving the call shall notify the Nuclear Plant Supervisor.

- 8.4 The Nuclear Plant Supervisor or his designee shall cross-connect the PA system, sound the fire alarm, wait for the fire alarm to stop, then immediately announce the fire/explosion in the following manner:

For Fires: "This is not a drill. This is not a drill," and give the location and classification of the fire/explosion. Then announce, "All personnel in the fire area withdraw to a safe location."

C/8/82

For Fire Drills: "This is a drill. This is a drill," and give the location and classification of the simulated fire/explosion. Then announce, "All personnel in the fire area withdraw to a safe location."

8.4.1 When word of the Fire/Explosion is passed over the page:

1. The Fire Team Leader shall dress out and respond to the fire. He will take a 2-way radio with him, communicate with the Nuclear Plant Supervisor/Emergency Coordinator, and take steps to extinguish or limit the spread of the fire.
2. The Nuclear Turbine Operator and Health Physics Fire Brigade members will report to fire locker No. 1 and dress out as fast as possible. They will put on their SCBA's except the mask, which will be put on before entering the fire area. They will carry an extra SCBA (for use by the leader) to the fire scene.
3. The Nuclear Operator and Lab Technician Fire Brigade members will report to fire locker No. 2, and dress out as fast as possible. They will put on their SCBA's except the mask which will be put on before entering the fire area.

NOTE: A list of the locations of fire protection equipment is included in Maintenance Procedure 15537.2, Periodic Surveillance of Fire Protection Equipment.

8.4.2 Upon arrival of the Fire Team Members, the Fire Team Leader shall give instructions to them for fighting the fire. While the Fire Team Members begin extinguishing the fire, the Fire Team Leader can put on his SCBA and join them.

8.4.3 In the event of a fire in a radiation area, the protection of life and property may require more immediate attention than the radiological hazard itself. Only when it has been determined or suspected that the fire is in an unusually high radiation area or in a high airborne activity environment should the radiological effort be permitted to interfere with extinguishing the fire.

8.4.4 If a fire is classified as an UNUSUAL EVENT, ALERT, or SITE AREA EMERGENCY pursuant to Emergency Procedure 20103, Classification of Emergencies, the Nuclear Plant Supervisor shall activate the Emergency Plans and follow the appropriate checklist in Emergency Procedure 20101, Duties of Emergency Coordinator.

NOTE: If outside fire fighting assistance is required to control a fire that does not threaten safety systems, this is an UNUSUAL EVENT.

NOTE: If outside fire fighting assistance is required to control a fire that may threaten safety systems, this is an ALERT.

NOTE: If a fire results in degradation of a safety system, this is a SITE EMERGENCY.

8.4.5 Requesting Outside Fire Fighting Assistance

1. If the fire, or explosion resulting in a fire, is considered by the Nuclear Plant Supervisor/Emergency Coordinator based on reports from the fire team leader as probably beyond the capability of the fire team to contain, the Dade County Fire Department shall be called. Whereupon, at the option of the Nuclear Plant Supervisor/Emergency Coordinator, if the fire cannot be controlled by the additional forces, then the Homestead Air Force Base Fire Department shall be called.
2. If the fire, or explosion resulting in a fire, is too large to be controlled by available plant forces and is in the Radiation Controlled Area, the Homestead Air Force Base Fire Department shall also be called.
3. If off-site assistance is requested, the Main Entrance Station Guard shall be notified by the NPS of the location of the fire and the expected arrival of the off-site fire fighting equipment.
4. When off-site assistance arrives, working communications shall be established between the Emergency Coordinator, the person in charge of the off-site fire fighting organization, the Radiation Team Leader if the fire is in the Radiation Controlled Area, and the Fire Team Leader.

NOTE: See Emergency Procedure 20104, Emergency Roster, for specific information regarding means of communication and telephone numbers.

8.5 Drill Evaluation: (Appendix A)

- 8.5.1 The person conducting the drill shall complete and forward Appendix A to the Fire Protection Supervisor, a copy to the Fire Team Training Supervisor and a copy to the Quality Control Supervisor for retention.

8.6 Fire Report: (Appendix B)

- 8.6.1 The brigade leader shall complete and forward Appendix B to the Fire Protection Supervisor, a copy to the Fire Team Training Supervisor and a copy to the Quality Control Supervisor for retention.

Date: _____

1. Fire Drill (Including location and class of simulated fire) _____
 - _____
 - _____
 2. Time for fire alarm to sound after drill is initiated: _____
 3. Time until fire drill and location are announced on page: _____
 4. Time for first Fire Brigade member to arrive at scene: _____
 5. Time when all Brigade Members are at scene: _____
 6. Evaluation of team leader performance: _____
 - _____
 7. Evaluation of team member performance: _____
 - _____
 8. Training given at drill scene: _____
 - _____
 9. Fire Brigade Members:

Leader _____ Chem
N.O. _____ R.P.M.
N.T.O. _____
 10. Critique on drill: _____
 - _____
 11. Recommendations for program, procedure, drill changes: _____
- Drill given by:

(Use Reverse Side if Necessary)

FIRE REPORT

Time:

1. Type of Fire (Class): _____
2. Location of Fire: _____
3. Property or Equipment Damaged: _____
- _____
4. Description of Loss: _____
5. Cause of Fire, if known: _____
6. Extent of Loss or Damage: _____
- _____
7. What Method of Extinguishment Used: _____
- _____
8. Any Injuries (Brigade Members): _____
- _____
9. Any Injuries (Non-Brigade Members): _____
- _____
10. Fire Brigade Members Reporting to Fire:
- _____ Leader _____ Chem
- _____ N.O. _____ R.P.M.
- _____ N.T.O.
11. Remarks: Any additional information necessary to ensure that persons not at the fire will understand the circumstances of the fire.
- _____
- _____
12. Leader in Charge _____ Date _____
- Member making Report (if different from above): _____ Date _____
- (Use Reverse Side, if necessary)

FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT UNITS 3 AND 4
EMERGENCY PROCEDURE 20106
FEBRUARY 4, 1982

1.0 Title:

NATURAL EMERGENCIES

2.0 Approval and List of Effective Pages:

2.1 Approval:

Change dated 2/4/82 Reviewed by PNSC February 4, 1982

Approved by J. H. Hayes Plant Mgr.-N, February 22, 1982

Approved by J. W. J. J. J. Vice President
Power Resources 2-23 1982

2.2 List of Effective Pages:

<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>
1	2/4/82	4	2/4/82	7	3/26/81	10	3/26/81
2	3/26/81	5	3/26/81	8	3/26/81	11	3/26/81
3	3/26/81	6	3/26/81	9	3/26/81	12	3/26/81

3.0 Scope:

3.1 Purpose:

This procedure provides instructions to be followed upon notification of a potential natural emergency or upon occurrence of an actual natural emergency.

3.2 Discussion:

3.2.1 The natural emergencies considered in this procedure are those associated with weather disturbances such as hurricanes or tornadoes. The geographical location of the area is such that the occurrence of other types of natural emergencies is highly improbable. However, flooding of the low lying areas surrounding the plant site could occur due to the torrential rains and flood tides that accompany a hurricane.

3.2.2 Warnings of impending natural emergencies are issued by the U. S. Government National Oceanicographic and Atmospheric Administration (NOAA) (National Weather Service) based on various weather surveillance means such as radar, satellite photographs and meteorological reporting stations. These warnings provide adequate information of the approach of most natural emergency conditions.

- 3.2.3 The warnings issued by NOAA (National Weather Service) are received at the FPL System Operations Power Coordinator's Office on the Weather teletype network.

The information received at the FPL System Operations Power Coordinator's Office is then relayed to the Turkey Point Plant, Units 3 and 4 Control Room through one of the various normal or emergency communication channels described in Emergency Procedure 20112, Communications Network.

3.3 Authority:

Turkey Point Plant Emergency Plans

3.4 Definitions:

The following terms, as used by NOAA are used throughout this procedure:

- 3.4.1 TORNADO WATCH: Meteorological conditions in the area described as favorable to the formation of tornadoes.
- 3.4.2 TORNADO WARNING: This condition is declared once the surveillance means have shown that a tornado has been sighted. The area for which this warning is issued is usually smaller than that for which a watch is declared.
- 3.4.3 TROPICAL STORM: A weather disturbance of large size with winds of 39 to 73 mph, rotating in a counterclockwise direction, accompanied by torrential rains and an area of low barometric pressure.
- 3.4.4 HURRICANE: Same as a tropical storm, but the winds are over 73 mph and a well defined low barometric pressure center, called the EYE of the storm, is present.
- 3.4.5 EYE: The center of a hurricane where calm prevails, with winds of no more than 20 - 30 mph and little or no rain.
- 3.4.6 HURRICANE ADVISORY: This is an information release put out every six hours, usually at 12 o'clock and 6 o'clock both day and night whenever a hurricane exists; the advisory is continually updated and this information is issued in the form of HURRICANE BULLETINS which are issued every 3 hours, day and night.
- 3.4.7 HURRICANE WATCH: This is a communication from NOAA, issued whenever a hurricane is between 24 and 48 hours from, and approaching, the U.S. coast and comprises an area approximately 100 miles either side of the expected place where it could come inland. It also gives the size, maximum winds, direction and speed of travel.

3.4.8 HURRICANE WARNING: This is a communication from NOAA, issued whenever a hurricane is between 12 and 24 hours from, and approaching, the U. S. coast and comprises an area approximately 50 miles either side of the expected place where the hurricane will strike the coastal areas. The size of the area comprised by the warning will be determined by the area over which hurricane force winds can be expected. This warning also gives the expected time and location where the hurricane will strike the coast, as well as the size, maximum winds, direction and speed of travel. The warning may also describe the coastal areas where high water, floods or high waves may be expected.

4.0 Precautions:

- 4.1 All unnecessary personnel in the Protected Area and all visitors in the Owner Controlled Area shall be required to leave when a hurricane warning is issued for the area. Flooding of the low-lying portions of the area, from heavy rains and high tides may make later evacuation impossible.
- 4.2 If a hurricane passes directly over the plant area, do not assume the hurricane has passed when the winds subside and rain stops. This only means that the EYE of the hurricane is over the area, and in approximately 1 hour the winds will begin blowing again from the opposite direction as the second half of the hurricane goes over the area.
- 4.3 When the hurricane is near the area and high winds are occurring, keep all activities outside of the plant buildings to a minimum.
- 4.4 Do not assume the emergency to be over until the receipt of official word from NOAA through the System Operations Power Coordinator that there is no longer a threat to the area.

5.0 Responsibilities:

- 5.1 It shall be the responsibility of the Site Manager, Plant Manager - Nuclear, Maintenance Superintendent - Nuclear, Operations Superintendent - Nuclear, Technical Department Supervisor, and Instrument and Control Supervisor to comply with the steps outlined in Section 8.0 of this procedure to protect the plant and personnel from the effects of the emergency.

6.0 References:

- 6.1 Turkey Point Plant Emergency Plans
- 6.2 Turkey Point Plant, Units 1 and 2 Hurricane Plans
- 6.3 National Oceanic and Atmospheric Administration Information - information on area tornado and hurricane reports
- 6.4 FSAR, Section 2, and Figures 1.2-3 and 1.2-4
- 6.5 Bechtel Corp. Drawing No. 5610-SK-C-289 Main Plant Perimeter Flood Wall

7.0 Records and Notifications:

If the Emergency Plans are initiated as a result of the natural emergency, records and notifications shall be as described in other Emergency Procedures.

If the Emergency Plans are not initiated only normal log entries are required.

8.0 Instructions:

[NOTE: If a hurricane or tornado warning is received, notify the Nuclear Plant Supervisor that an "unusual event" has occurred].

8.1 When information is received that a Tornado Watch has been issued for the area in which the plant is located:

8.1.1 The Nuclear Plant Supervisor shall notify the Site Manager or Plant Manager - Nuclear (if they are on-site), the Duty Call Supervisor (if the Site Manager or the Plant Manager - Nuclear were not notified), the Security Shift Supervisor at the Main Entrance Station and plant personnel on his shift. He shall also inform them that an Unusual Event is in progress.

8.1.2 The Site Manager/Plant Manager - Nuclear/Duty Call Supervisor shall evaluate the information, and decide if further action and/or manpower is required.

8.1.3 The Security Shift Supervisor shall ensure that all visitors in the Owner Controlled Area are notified of the Tornado Watch.

8.2 When information is received that a Tornado Warning has been issued for the area in which the plant is located:

8.2.1 The Nuclear Plant Supervisor shall notify personnel as in 8.1.1 above. This shall be an Unusual Event unless the tornado strikes the facility (in which case an ALERT would be declared).

8.2.2 The Site Manager/Plant Manager - Nuclear/Duty Call Supervisor shall evaluate the information and decide if further action and/or manpower is required.

8.2.3 The Security Shift Supervisor shall notify all visitors in the Owner Controlled Area of the warning and ensure that they leave the property.

8.2.4 The Maintenance Supervisor - Nuclear, if available, or the Nuclear Plant Supervisor and Nuclear Watch Engineer shall conduct a survey of all plant areas and the equipment on them and remove or tie down any loose material or equipment that could be blown away.

8.2.5 The Auxiliary Equipment Operator shall clean the intake trash barrier and start the intake traveling screens.

8.3 When any tornado strikes the facility:

8.3.1 The Nuclear Plant Supervisor shall declare an ALERT and initiate the Emergency Plan.

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NATURAL EMERGENCIES

- 8.3.2 The Nuclear Plant Supervisor shall notify personnel as in Instruction 8.1.1 (above).
- 8.3.3 The Site Manager/Plant Manager - Nuclear/Duty Call Supervisor shall evaluate the information and decide if further action is required.
- 8.4 When information is received that a Hurricane Watch has been issued for the area in which the plant is located:
- 8.4.1 The Nuclear Plant Supervisor shall notify the Site Manager or the Plant Manager - Nuclear (if they are on-site) or the Duty Call Supervisor (if the Site Manager or the Plant Manager - Nuclear were not notified). He shall also inform them that an Unusual Event is in progress.
- 8.4.2 The Site Manager, Plant Manager - Nuclear, or Duty Call Supervisor shall notify other individuals in accordance with Emergency Procedure 20104, Emergency Roster.
- 8.4.3 If visitors have not yet been required to leave, the Plant Security Supervisor shall order the Security Shift Supervisor to inform all visitors of the Hurricane Watch issued and ensure that they leave.
- 8.4.4 The Operations Superintendent - Nuclear or Nuclear Plant Supervisor shall verify that the following preparations are made:
1. Check operation of the NAWAS and LGR equipment, base radio and portable radio equipment.
 2. Test run both A and B emergency diesel generators, top off day and skid fuel tanks and verify that starting air is at 240 psi.
 3. Test run the turbine DC oil pumps.
 4. Check fire system and have the fire pumps.
 5. Test run the intake trash rakes and traveling screens.
- 8.4.5 The Maintenance Superintendent - Nuclear or his designee shall verify that the following preparations are made:
1. Check supply of emergency items and materials such as:

Wire	Wooden wedges	Flashlights and Batteries
Lumber	Buckets	Portable bedding equipment
Rope	Caulking	Portable Fans and Air Movers
Nails	Plastic Film Cloth (pliofilm)	
 2. Provide a truck and driver to obtain foodstuffs and other required items.

3. Clean sumps and sump pump suction strainers on the auxiliary building and electrical cable manholes. Test run all sump pumps.
 4. Survey the plant site removing trash and debris and securing loose equipment.
- 8.4.6 The Operations Superintendent - Nuclear shall verify that the following preparations are made:
1. Inventory supply of laboratory chemicals and reagents and obtain those that are necessary.
 2. Check diesel oil storage tank and turbine lube oil storage tanks. Diesel oil storage tank should be topped off and turbine lube oil storage tank should be at least half full.
 3. Make arrangements with the diesel oil suppliers for possible emergency deliveries.
 4. Bolt or tie down all hatches on water plant tanks.
- 8.4.7 The Instrument and Control Supervisor shall check all instruments located outdoors to be in weather proof condition, inspect cases, gaskets, etc. and weatherproof those that are not with plastic film and tape.
- 8.4.8 The Land Management Site Manager shall make arrangements with the Air Force Sea Survival School for removal of their boats and loose gear from the area; and also with any outside contractor working within the plant property to remove, tie down, or otherwise secure his equipment and material to keep it from blowing away.
- 8.4.9 The Administrative Supervisor shall have all food storage facilities inventoried, a grocery list prepared and the necessary food purchased and properly stored. Enough food shall be purchased for all operators, maintenance and guard personnel staying on site during the storm for several days.
- 8.5 When information is received that a Hurricane Warning has been issued for the area in which the plant is located:
- 8.5.1 The Nuclear Plant Supervisor shall notify personnel as in 8.3.1 above. This shall be classified as an Unusual Event unless there is reason to upgrade the classification to an ALERT.
 - 8.5.2 The Plant Security Supervisor will inform the Security Shift Supervisor to close the barriers to all unauthorized traffic.
 - 8.5.3 The Operations Superintendent - Nuclear or Nuclear Plant Supervisor shall verify that the following preparations are made:
 1. Make arrangements for sufficient operating personnel to be at the plant during the hurricane in order to provide the necessary coverage for several days during which the plant may be inaccessible.

2. Fill condensate tanks, primary water tanks and refueling water storage tanks.
3. When hurricane is less than 6 hours from the plant have portable bedding equipment brought to the control room and/or cable spreading room and other suitable locations.
4. Open and tag outdoor 480V receptacle circuit breakers. (See attached breaker list, Appendix A). Issue clearance to Nuclear Plant Supervisor on all breakers opened.
5. As the hurricane approaches the site, and high winds begin, stop the vent fans listed below:

NOTE: Fans may be operated on a selected basis as operating conditions dictate.

Spent fuel pit ventilation fan
New fuel storage room vent fan
Spent fuel pit heat exchanger room vent fan
Containment purge supply and exhaust fans
Auxiliary building supply vent fans
Containment penetration cooling fans if not required
4160V Switchgear and 480V L. C. rooms vent fans
Diesel generator room vent fans

6. Shutdown Amertap Systems, open and tag power supply breakers to all pumps and valves, clearance to the Nuclear Plant Supervisor.

8.5.4 The Maintenance Superintendent - Nuclear shall verify that the following preparations are made:

1. Close the following outside doors and roof hatches and inflate door seals where applicable.

(1) Outside Doors:

Cable Spreading Room to roof (through CRDM room)
New Fuel Storage Rooms
Spent Fuel Pits
Comp. Cooling Water Surge Tank Room
Door from Auxiliary Building to Turbine Area
480V L.C. Rooms
4160V Switchgear Rooms
Doors to Holdup Tank enclosures
Emergency Diesel Room doors
Turbine and Auxiliary Building Chemical Storage Room
Door from Aux. Building to No. 4 Comp. Cool Water Equip.
Area
Elevator vestibules
Containment Purge Supply Fan Room
Inlet to No. 3 Charging Pump Room from Boric Acid Tank Area
Intake Chlorinator Equipment House
Reactor Control Rod Equipment Rooms (3B and 4B MCC Rooms)
Electrical Penetration Rooms and Enclosures
Generator Exciter Switchgear Rooms
Radwaste Building Doors (East, West, and Loading Ramp)

3/26/81

(2) Roof hatches:

RHR pump removal hatches
Evaporator Condensate Demineralizers
Monitor Tanks
Radwaste Building

2. Install stoplogs on plant flood protection wall as follows:
(Ref. to Dwg. No. 5610-SK-C-289)

By the Unit 3 4160V Switchgear Room entrance
By the Diesel Oil Storage Tank Dike Area
By the Unit 3 and Unit 4 Main Transformers
By the Unit 4 Steam Generator Feed Pump Room
By the Unit 4 Blowdown Tank
On the entrance to the Unit 3 Comp. Cool Water Pump Area
On the entrance to the Unit 4 Comp. Cool Water Pump Area
By the Unit 3 and Unit 4 New Fuel Storage Area
By the Unit 3 and Unit 4 Lube Oil Reservoir
On the entrance to the Unit 3 and Unit 4 Condenser Pits
On the entrance to the Unit 3 and Unit 4 Spent Fuel Pit Heat
Exchanger Rooms
On the entrance to the Aux. Building Chemical Storage Area

3. Tie down, remove, or otherwise secure all loose equipment, such as ladders, fire extinguishers and hose reels, waste containers, life rings, etc.
4. Store all chemical drums in the chemical warehouse, and oil drums in the oil house and/or chemical warehouse.
5. Verify that the gas cylinders in both gas cylinder storage houses are properly secured.
6. Remove vortex eliminators from the intake area, and clean the trash pit.
7. Dog the intake area gantry crane, the cask crane and the turbine deck gantry crane.
8. Install life lines between important operating areas of the plant in case personnel must be sent to these areas during high winds.
9. Provide tarpaulins and ropes at various locations throughout the auxiliary building; also have on hand in the control center and cable spreading room an ample supply of plastic film (pliofilm).
10. Ensure that mechanics and electricians will be available at the plant during the emergency.
11. Provide portable dewatering pumps at Condensate Pump Areas, Units 3 and 4.

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NATURAL EMERGENCIES

12. Close doors and vent openings on the elevator machinery room.
13. Wire shut all doors on outdoor MCC's, with insulated wire.
14. Take spare sump pumps to the Auxiliary Building.
15. Tie down intake trash rakes and hoists in such a manner that they are secure, yet readily available if needed.
16. When the vent fans listed in 8.4.3.5 are stopped, the following air intake, exhaust, or vent openings should be closed off. Verify that the dampers of those openings equipped with dampers are locked in the closed position. Install protective covers where required, as follows:

Spent Fuel Pit Inlet Air Vents
New Fuel Storage Room Fan Inlet Vent
Spent Fuel Pit Heat Exchanger Room Fan Inlet Vent
Spent Fuel Pit Heat Exchanger Room Exhaust Vent
Containment Purge Supply Fan Air Intake
Auxiliary Building Supply Fans Air Intake Vent
Control Room HVAC Outside Air Intakes
Control Room HVAC Post MHA Emergency Fan Outside Air Intake
4160V Switchgear and 480V L.C. Rooms Exhaust Fan Vents

- 8.5.5 The Operations Superintendent - Nuclear shall verify that the following preparations are made:
 1. Bolt or otherwise secure the hatches on the chemical feed tanks.
- 8.5.6 The Instrument and Control Supervisor shall ensure that I and C Specialists will be available at the plant during the emergency and shall verify that the following preparations are made:
 1. Protect exposed vital instrumentation from the high winds and possible flying debris.
- 8.5.7 The Site Manager shall verify that required additional personnel have been notified and are available.
- 8.6 When information is received of the approach of a hurricane with winds up to design basis (225 mph) levels, the Nuclear Plant Supervisor shall declare an Alert and activate Emergency Procedure 20101, Duties of Emergency Coordinator, and Emergency Procedure 20103, Classification of Emergencies. Provisions of Step 8.5 shall also be followed.
- 8.7 When information is received of the approach of a hurricane with winds greater than design basis (225 mph) levels, the Nuclear Plant Supervisor shall declare a Site Area Emergency and activate Emergency Procedure 20101, Duties of Emergency Coordinator, and Emergency Procedure 20103, Classification of Emergencies. Provisions of Step 8.5 shall also be followed.

- 8.8 When information is received that lower high water levels (50 year flood or low water) is anticipated in the area of the plant (but a Hurricane Watch is not in effect):
- 8.8.1 The Nuclear Plant Supervisor shall classify it as an Unusual Event and activate Emergency Procedure 20101, Duties of Emergency Coordinator, and Emergency Procedure 20103, Classification of Emergencies.
 - 8.8.2 If high water is anticipated but not high wind, those provisions of Step 8.4 shall be carried out which are directed toward concern for high water.
- 8.9 When flood, low water, hurricane surge, or other abnormal water conditions cause the storm drainage system to be exceeded, the Nuclear Plant Supervisor shall declare an Alert, and activate Emergency Procedure 20101, Duties of Emergency Coordinator, and Emergency Procedure 20103, Classification of Emergencies.
- 8.10 When flood, low water, hurricane surge, or other abnormal water conditions cause vital equipment to fail, the Nuclear Plant Supervisor shall declare a Site Area Emergency and activate Emergency Procedure 20101, Duties of Emergency Coordinator, and Emergency Procedure 20103, Classification of Emergencies.
- 8.11 When any earthquake has occurred as indicated on the seismograph, the Nuclear Plant Supervisor shall classify this as an Unusual Event and activate Emergency Procedure 20103, Classification of Emergencies.
- 8.12 If any earthquake occurs greater than the Operating Basis Earthquake, the Nuclear Plant Supervisor shall declare an Alert and activate Emergency Procedure 20101, Duties of Emergency Coordinator and Emergency Procedure 20103, Classification of Emergencies.
- 8.13 When an earthquake occurs greater than the Safe Shutdown Earthquake, the Nuclear Plant Supervisor shall declare a Site Area Emergency and activate Emergency Procedure 20101, Duties of Emergency Coordinator, and Emergency Procedure 20103, Classification of Emergencies.
- 8.14 Stop all non-essential handling of radioactive materials and avoid releases of radioactive water to the environment during the duration of the emergency.
- 8.15 In the case of weather emergencies, wait until official word is received from NOAA through the System Operations Power Coordinator, that the causes of the emergency are over and that the threat to the area is over before terminating the emergency conditions.

APPENDIX A

480 VOLT RECEPTACLE LIST

<u>BREAKER NO.</u>	<u>RECEPTACLE NO./LOCATION</u>
30653	17 and 17a, Unit 3 Containment
30661	5, West End, Aux. Building E/W Passageway
30674	6, 6A and 6B East End and Exterior East Wall of Aux. Building (See Note 1)
30736	7, North End, Aux. Building N/S Passageway
30905	11 and 12, North End of Intake Area
30760	8, Unit 3 Cask Wash Area (See Note 2)
40653	17 and 17a, Unit 4 Containment
40903	15 and 16, Intake Area (at Traveling Screens
0870	9, South End of Aux. Building N/S Passageway
0871	10, Unit 4 Cask Wash Area (See Note 2)
1023	13, Water Treatment Plant Area
B1605	01, Radwaste Control Area, West Wall
B1704	02, Radwaste N/S Passageway, North End
B2028	03, Radwaste N/S Passageway, South End Radwaste Building, outside East Wall at door to Control Area, welding receptacle
B2067	Trash Compactor Room (See Note 3), Welding Receptacle
Panel 3P14, Bkr 1	Two Receptacles outside North Wall and two outside East Wall of No. 3 4160 Switchgear Room
Panel 3P14, Bkr 2	One Receptacle at SE Corner No. 3 Aux. Trans.
Panel 3P14, Bkr 3	One Receptacle at No. 3 Bowser Filter One Receptacle at West of 3A MSRH One Receptacle at SW Corner of Cond. Retubing Pit, Ground Level (See Note 4)
Panel 3P14, Bkr 4	One Receptacle in Aux. Feedwater Pump Area One Receptacle East of 3D MSRH
Panel 3P14, Bkr 5	One Receptacle, Turbine Deck, West Side between Units 3 and 4 One Receptacle under South End of Steam Platform
Panel 3P14, Bkr 6	One Receptacle on Mezz. Level at Panel 3P14 One Receptacle at NE Corner of Turbine Deck
Panel 3P14, Bkr 7	One Receptacle at NW Corner of Turbine Deck
Panel 4P14, Bkr 1	One Receptacle at East Wall No. 4 4160 Room
Panel 4P14, Bkr 2	One Receptacle at SE Corner No. 4 Aux. Transformer
Panel 4P14, Bkr 3	One Receptacle at South Side of Cond. Retubing Pit, Ground Level (See Note 4) One Receptacle East of Bowser Filter One Receptacle West of 4A MSRH
Panel 4P14, Bkr 4	One Receptacle East of 4D MSRH One Receptacle East of No. 4 S/G Feedwater Pump Room
Panel 4P14, Bkr 5	One Receptacle at SW Corner of Turbine Deck One Receptacle under South edge of Steam Platform
Panel 4P14, Bkr 6	One Receptacle on Mezz. Level at Panel 4P14 One Receptacle on Turbine Deck, South of Control Room Door

3/26/81

APPENDIX A (cont'd)

Apprentice Training Building - Local breakers on seven welding receptacles on exterior North wall.

NOTE 1: Also provides power to B.A.E. temporary pumps.

NOTE 2: Power supply to Emergency Spent Fuel Pit Cooling Water Pumps

NOTE 3: Power supply to trash compactors

NOTE 4: Power supply to L.O. Reservoir Oil Renovators (DeLaval)

FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT UNITS 3 AND 4
EMERGENCY PROCEDURE 20104
JANUARY 21, 1982

1.0 Title:

EMERGENCY ROSTER

2.0 Approval and List of Effective Pages:

2.1 Approval:

Change dated 1/21/82 Reviewed by PNSC January 21, 1982
Approved by J. K. Hayes Plant Mgr.-Nuc February 1, 1982
Approved by [Signature] Director of Nuclear Energy 2-22 1982

2.2 List of Effective Pages:

<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>
1	1/21/82	4	10/29/81	7	10/8/81
2	10/29/81	5	1/21/82	8	9/3/81
3	10/29/81	6	1/21/82	9	10/8/81
				10	10/29/81

3.0 Scope:

3.1 Purpose:

This procedure provides the phone numbers of personnel involved with emergency response to be called by the Duty Call Supervisor and the Security Team Leader.

3.2 Authority:

This procedure implements the Turkey Point Plant Radiological Emergency Plans.

4.0 Precautions:

None

5.0 Responsibilities:

5.1 The Quality Control Supervisor shall be responsible for periodic verification and updating of this procedure.

5.2 FPL personnel in this procedure should notify the QC Supervisor when a change pertinent to information appearing in the roster occurs.

.0 References:

Turkey Point Plant Radiological Emergency Plan

7.0 Records and Notifications:

None

8.0 Instructions:

8.1 Every plant condition which requires initiation of the Emergency Plan will be classified as an Unusual Event, alert, site area emergency, or general emergency by the Emergency Coordinator, who will so inform the Duty Call Supervisor. The Duty Call Supervisor shall follow the instructions below on who needs to be notified by him for each of the four categories. A list of the actual alternates and telephone numbers is attached in Appendix A.

8.2 Unusual Event

8.2.1 For all Unusual Events, the Duty Call Supervisor shall notify the following or their alternates:

Emergency Control Officer	(J. W. Williams)....(See Appendix A)
Site Manager	(H. E. Yaeger).. (J. K. Hays)....
Plant Manager - Nuclear	(J. K. Hays)....
NRC Resident Inspector	(R. Vogt-Lowell).

8.2.2 For Unusual Events, the Duty Call Supervisor shall call any additional plant management or supervision which he or the Emergency Coordinator deems appropriate to provide assistance in remedying the condition.

8.2.3 In addition, when the Unusual Event is a hurricane warning, the Duty Call Supervisor should call the following or their alternates, unless they have already been notified or are already on site.

Security Supervisor	(R. E. Garrett).. (D. W. Haase)....
Operations Superintendent-Nuclear	(D. W. Haase)....
Maintenance Superintendent-Nuclear	(J. P. Mendieta).
Technical Supervisor	(J. A. Labarraque)
I and C Supervisor	(J. W. Kappes)....
Land Management Site Manager	(E. F. Baker).....

8.2.4 In addition, when the Unusual Event involves initiation of the Security Contingency Plan, the Duty Call Supervisor shall notify the Security Supervisor or his alternate unless he has already been notified or is already on site.

8.3 Alert

8.3.1 For all Alerts, the Duty Call Supervisor shall notify the following or their alternates:

10/29/81

Emergency Control Officer	(J. W. Williams) 	(See Appendix A)
Site Manager	(H. E. Yaeger)	
Plant Manager - Nuclear	(J. K. Hays)	
Outage Coordinator	(D. C. Bradford) (Communicator)	
NRC Resident Inspector	(R. Vogt-Lowell)	

- 8.3.2 For any Alert involving release of radioactivity to the environment, the Duty Call Supervisor shall notify the following or their alternates unless they have already been notified or are on site:

Health Physics Supervisor	(P. W. Hughes) (Radiation Team Leader)	
Chemistry Supervisor	(J. S. Wade)	

- 8.3.3 For any Alert, the Duty Call Supervisor shall call any additional plant management or supervision which he or the Emergency Coordinator deems appropriate to provide assistance in remedying the condition.

8.4 Site Area Emergency

- 8.4.1 For all Site Area Emergencies, the Duty Call Supervisor shall notify the following or their alternates:

Emergency Control Officer	(J. W. Williams) 	(See Appendix A)
Site Manager	(H. E. Yaeger)	
Plant Manager - Nuclear	(J. K. Hays)	
Outage Coordinator	(D. C. Bradford) (Communicator)	
NRC Resident Inspector	(R. Vogt-Lowell)	
Technical Dept. Supv.	(J. A. Labarraque) (TSC Supv.)	

- 8.4.2 For any Site Area Emergency involving release of radioactivity to the environment, the Duty Call Supervisor shall notify the following or their alternates unless they have already been notified or are on site:

Health Physics Supervisor	(P. W. Hughes) (Radiation Team Leader)	
Chemistry Supervisor	(J. S. Wade)	

- 8.4.3 For any Site Area Emergency which might require site evacuation, the Duty call Supervisor shall notify the following or their alternates unless they have already been notified or are on site:

Reactor Engineering Supv.	(V. A. Kaminskis) (Assembly Area Supv.)	
Security Supervisor	(R. E. Garrett) (Security Team Leader)	

- 8.4.4 For any Site Area Emergency the Duty Call Supervisor shall call any additional plant management or supervision which he or the Emergency Coordinator deems appropriate to provide assistance in remedying the condition.

8.5 General Emergency

8.5.1 For all General Emergencies, the Duty Call Supervisor shall notify the following or their alternates:

Emer. Control Officer	(J. W. Williams)(See Appendix A)
Site Manager	(H. E. Yaeger)
Plant Manager-Nuclear	(J. K. Hays)
Outage Coordinator	(D. C. Bradford)	(Communicator)...
NRC Resident Insp.	(R. Vogt-Lowell)EXEMP.
Health Physics Supv.	(P. W. Hughes)	(Rad. Team Leader)...
Chemistry Supervisor	(J. S. Wade)
Reactor Eng. Supv.	(V. A. Kaminskis)	(Assembly Area Supv)....
Security Supervisor	(R. E. Garrett)	(Security Team Leader)....
Technical Dept. Supv.	(J. A. Labarraque)	(TSC Supv)....

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8.5.2 For any General Emergency the Duty Call Supervisor shall call any additional plant management or supervision which he or the Emergency Coordinator deems appropriate to provide assistance in remedying the condition.

8.6 Appendix B is the Security Team Leader's Call List of personnel who shall be notified during an emergency.

8.7 Appendix C contains miscellaneous phone numbers that may be needed during an emergency.

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EMERGENCY ROSTER

APPENDIX A

DUTY CALL SUPERVISOR'S CALL LIST

TITLE	NAME	PHONE/BEEPER	
		HOME	OFFICE
Emergency Control Officer	J. W. Williams		
	J. R. Bensen		
	C. O. Woody		
Radiological Duty Officers	K. N. Harris		
	H. N. Paduano		
	R. J. Acosta		
	D. K. James		
	J. L. Danek		

1. If the Emergency Control Officer or his alternates cannot be reached, the appropriate Radiological Duty Officer should be contacted. The appropriate Radiological Duty Officer will be one of those listed above and is listed on the Power Resources Radiological Duty Officer Roster for the week involved.
2. The ECO Emergency Office (GO) telephone number is

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APPENDIX C

ADDITIONAL USEFUL NUMBERS (cont'd)

ORGANIZATION	TELEPHONE
State Warning Point, Tallahassee ALTERNATE	
Nuclear Regulatory Commission ALTERNATE NO. 1 ALTERNATE NO. 2 <u>ALTERNATE NO. 3</u>	
Dade County Civil Defense OFF HOURS	 and ask for ^{or} Shift Commander and ask for ^{or} Shift Commander
Monroe County Disaster Preparedness OFF HOURS	
HAFB Command Post	Direct Line or or or
Dade County Fire Rescue	
Randle Eastern Ambulance	
Coral Reef General Hospital	
REEF Notification: Mount Sinai Hospital (Primary) Baptist Hospital (Backup)	
Division Load Dispatcher System Load Dispatcher	

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EXEMPTED

APPENDIX C

ADDITIONAL USEFUL NUMBERS

This section lists numbers, not included in any of the call lists, which may be of use during an emergency condition.

FUNCTION	LOCATION	TELEPHONE
On Site Emergency Control Station	Turkey Point Units 3 and 4 Control Room	
On Site Emergency Control Station	Turkey Point Main Entrance Station	
Operational Support Center	South Assembly Room Administration Building	
	St. Lucie Plant Unit 1	
General Office Info. (business hours only)	General Office	
Assembly Area, All Personnel	Florida City Substation 16100 SW 344 Street (Palm Drive)	
Technical Support Center	Turkey Point SW of I and C Building	
Emergency Operations Facility	General Office Power Resources Management Section	

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APPENDIX B

SECURITY TEAM LEADER'S CALL LIST

TITLE	PHONE
U. S. Air Force Sea Survival School Training Facility	
Bechtel Corporation	
Land Management (Cooling Canals)	EXEMPT TO CER HOME TICE

TITLE	NAME/ADDRESS	TELEPHONE	
		HOME	OFFICE
Land Management - [Site Manager]	E. F. Baker EXEMPT FROM DISC		
Alternates:	Wal EXEMPT FROM DISCLOSURE		
	Glenn Williams		

APPENDIX A

DUTY CALL SUPERVISOR'S CALL LIST (cont'd)

TITLE	NAME	PHONE/BEEPER HOME
ADDITIONAL PLANT PERSONNEL WHO IT MAY BE APPROPRIATE TO CONTACT		
Q. C. Supervisor	D. W. Jones	
Nuc. Operations Supv.	V. B. Wager	
<u>Startup Supt.-Nuclear</u>	J. E. Moore	
Training Supervisor	K. E. Beatty	
Plant Manager - Fossil	T. D. Burkett	
Oper. Supt. - Fossil	C. L. Yates	
Plant Supervisor - Fossil Results	R. C. Kosel	
Maint. Supt. - Fossil	E. D. Whittenton	
Plant Supervisor I - Fossil Operations	J. H. Norman	
Nuclear Plant Supv.	J. E. Crockford	
Nuclear Plant Supv.	G. G. Jones	
Nuclear Plant Supv.	L. C. Huenniger	
Nuclear Plant Sup.	C. A. Coker	
Nuclear Plant Supv.	T. A. Finn	
Nuclear Plant Supv.	J. L. Whitehead	
Plant Engineer II	W. C. Miller	
Quality Assurance - Turkey Point Plant	S. M. Feith	
Plant Construction	G. R. Gram	

SAFE
STATION

APPENDIX A

DUTY CALL SUPERVISOR'S CALL LIST

NAME/TITLE	TELEPHONE
H. E. Yaeger	
J. K. Hays	
D. W. Haase	
J. P. Mendieta W. R. Williams, First Alternate J. P. Lowman, Second Alternate L. L. Thomas, Third Alternate J. W. Kappes, Fourth Alternate	
E. F. Baker	
P. W. Hughes J. Bates First Alternate T. S. Peck Second Alternate R. M. Brown Third Alternate	
J. S. Wade E. R. LaPierre First Alternate R. A. Leineke Second Alternate R. E. Lindstrom Third Alternate	
V. A. Kaminskas R. G. Mende First Alternate M. J. Allman Second Alternate	
R. E. Garrett D. T. Hunt First Alternate R. G. Esposito Second Alternate	
J. A. Labarraque D. D. Grandage First Alternate E. A. Suarez Second Alternate	
D. C. Bradford M. T. VanNoy First Alternate L. G. Hess Second Alternate	
R. Vogt-Lowell	