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REMARKS:

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Final Exercise Report

ST. LUCIE NUCLEAR POWER PLANT

Licensee: Florida Power and Light

Exercise Date: February 16, 2000

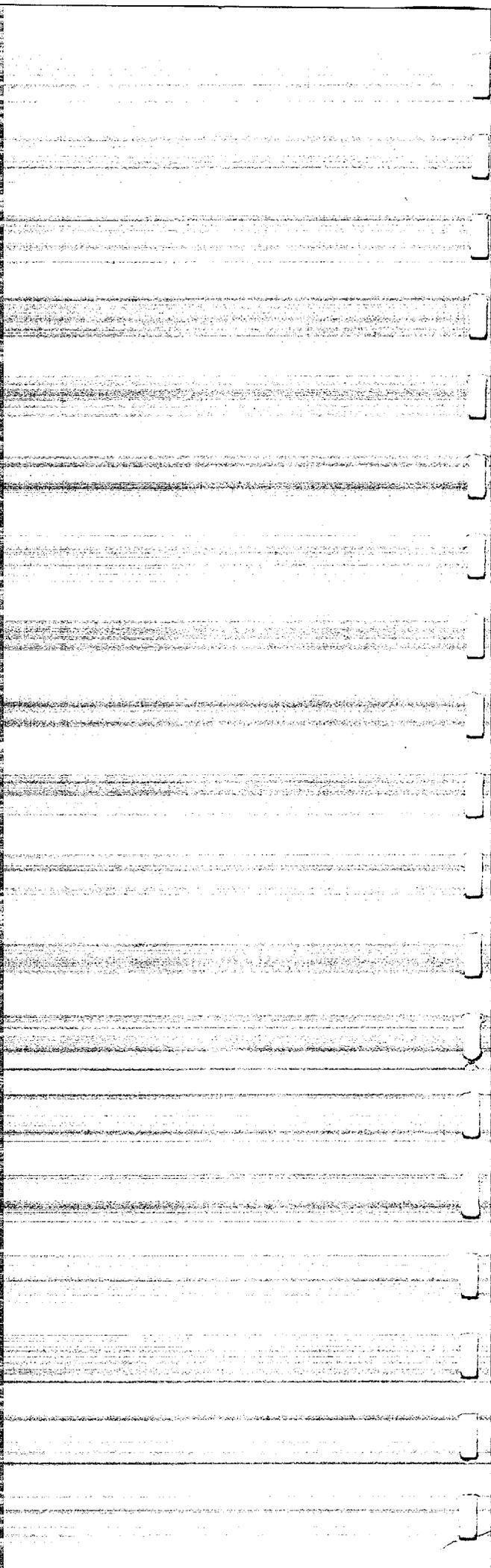
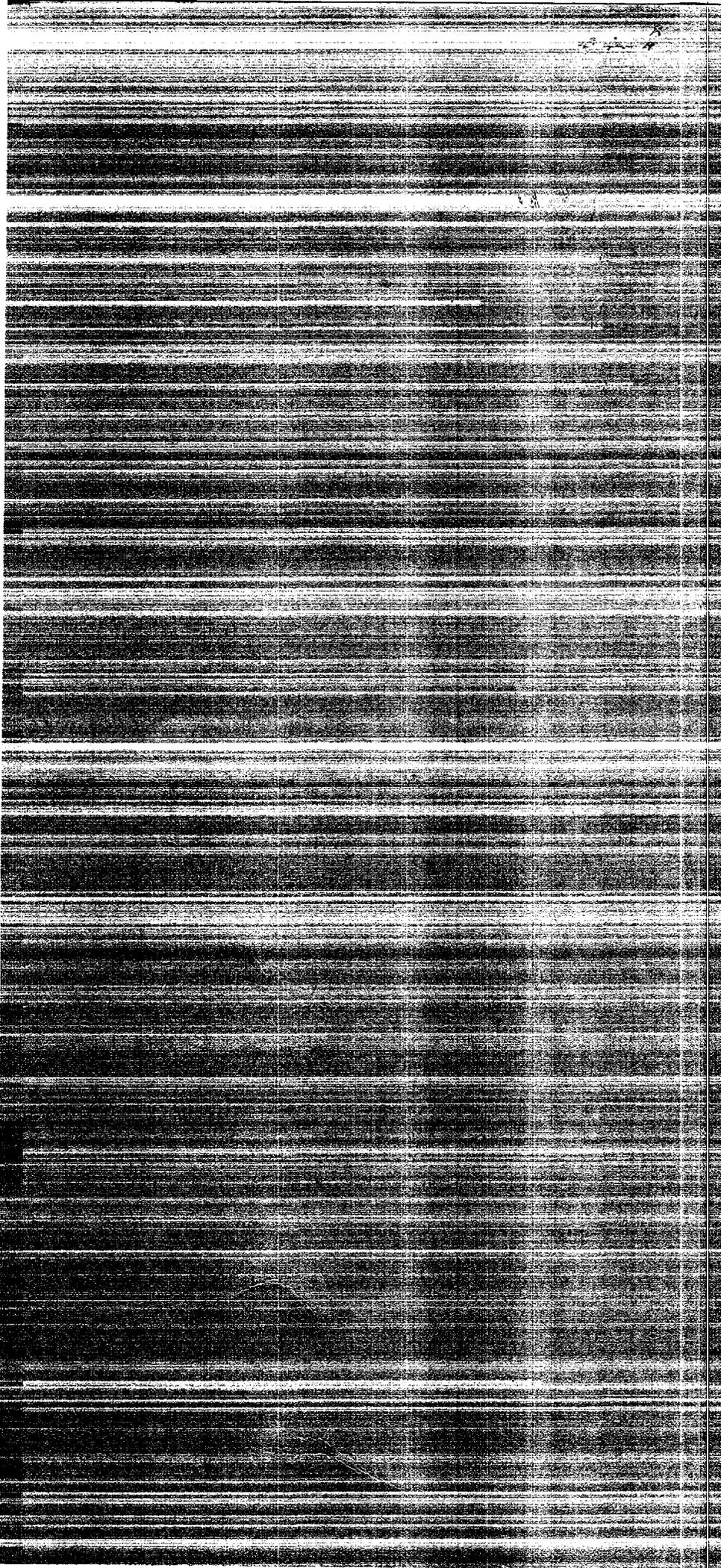
Report Date: May 5, 2000

FEDERAL EMERGENCY MANAGEMENT AGENCY

REGION IV

3003 Chamblee-Tucker Road

Atlanta, Georgia 30341





Federal Emergency Management Agency

Region IV
3003 Chamblee-Tucker Rd
Atlanta, GA 30341

May 5, 2000

Mr. Luis A. Reyes
Regional Administrator - RII
Nuclear Regulatory Commission
61 Forsyth Street, SW, Suite 23T85
Atlanta, Georgia 30323

Dear Mr. ^{Luis} Reyes:

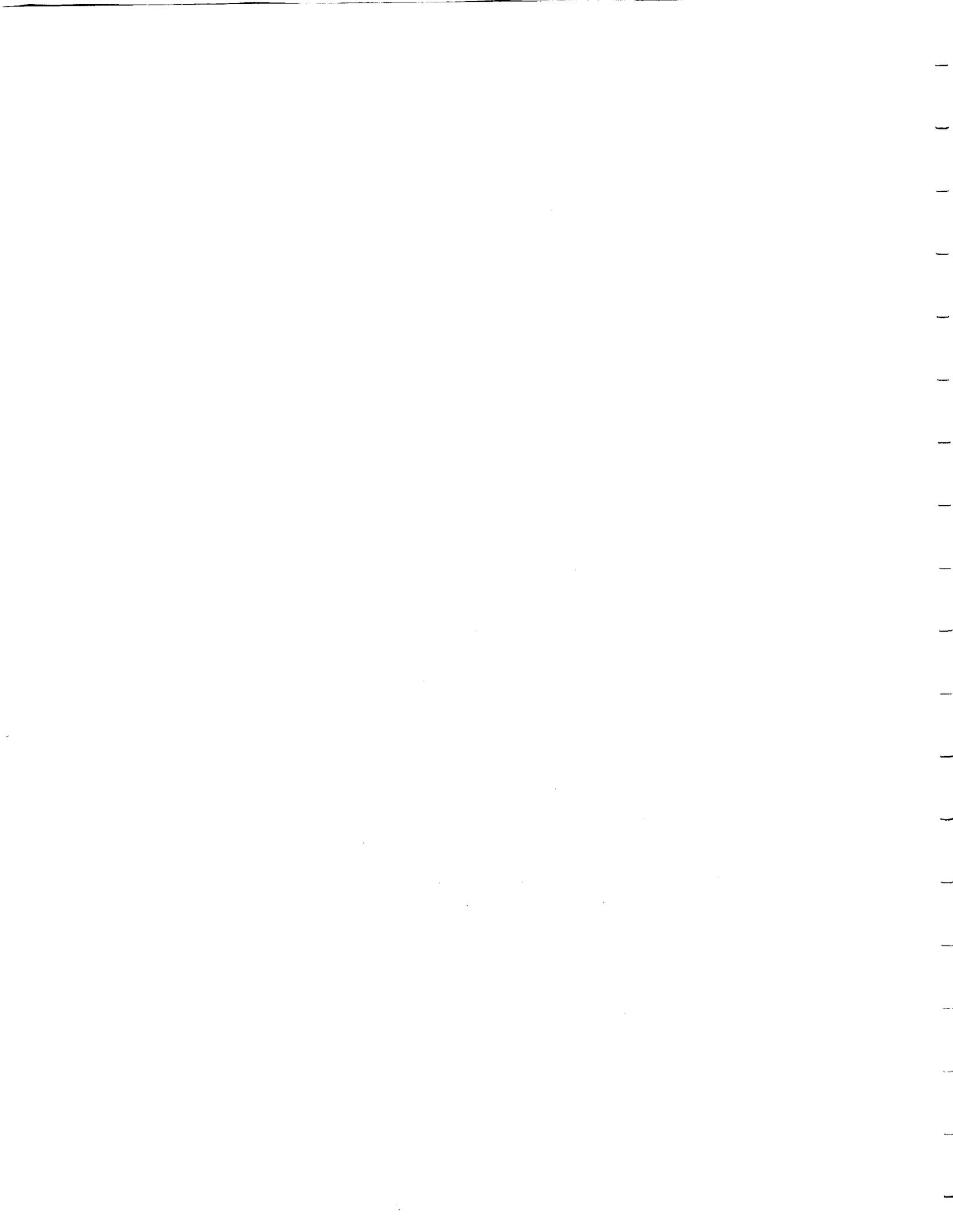
Enclosed is a copy of the final exercise report for the full participation, plume exposure pathway exercise of the offsite radiological emergency response plans site-specific to the St. Lucie Nuclear Power Plant. This report addresses the evaluation of the plans and preparedness for the State of Florida, the Risk Counties of St. Lucie and Martin, as well as, the Host Counties of Indian River, Palm Beach and Brevard. Copies of this report will be forwarded to the State of Florida, and FEMA and NRC headquarters by my staff.

The State of Florida has a unique method of decision-making. The State Forward Emergency Response Team and the decision-makers from St. Lucie and Martin Counties co-locate in Florida Power and Light Company's EOF. This location allows for rapid and thorough communication between the utility and the offsite authorities. Decisions are rapidly communicated to the respective county EOCs for implementation.

St. Lucie and Martin Counties demonstrated their commitment to public health and safety during this exercise, both through operations at their respective EOCs, and excellent demonstrations of emergency worker monitoring and decontamination.

Palm Beach County used their demonstration of reception and congregate care as training for their HAZMAT team. Indian River and Brevard Counties utilized this exercise to train EOC staff through a table-top exercise. Indian River and Brevard Counties realize the potential for mutual cooperation from both the host and risk counties. Brevard County is involved in response planning for satellite launches that may contain radioactive material.

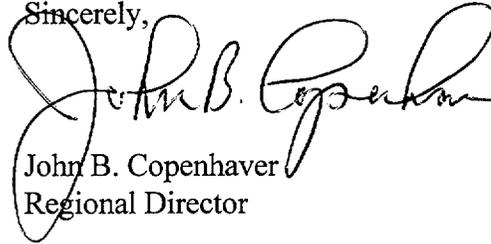
All agreed upon objectives for the exercise were demonstrated. No Deficiencies and only one Area Requiring Corrective Action (ARCA) were identified. The correction of the ARCA will be demonstrated during the October, 2000, Crystal River Exercise.



Based on the results of the February 16, 2000, exercise and FEMA's review of Florida's Annual Letter of Certification for 1998 and 1999, the offsite radiological emergency response plans and preparedness for the State of Florida and the appropriate local jurisdictions site-specific to the St. Lucie Nuclear Power Plant can be implemented and are adequate to provide reasonable assurance that appropriate measures can be taken offsite to protect the health and safety of the public in the event of a radiological emergency at the site. The Title 44 CFR, Part 350, approval of the offsite radiological emergency response plans and preparedness for the State of Florida site-specific to the St. Lucie Nuclear Power Plant, granted on February 14, 1984, will remain in effect.

Should you have questions, please contact Thomas Reynolds at 770/220-5304.

Sincerely,

A handwritten signature in black ink, appearing to read "John B. Copenhaver". The signature is fluid and cursive, with the first name "John" being particularly prominent.

John B. Copenhaver
Regional Director

Enclosure

cc: Ms. Vanessa E. Quinn, Acting Chief
FEMA HQ, State and Local Regulatory,
Evaluation and Assessment Branch - PT-CR-RP

Acting Chief
Emergency Preparedness and Health Physics Section
Operator Licensing, Human Performance and Plant
Support Branch
Division of Inspection Program Management
Office of Nuclear Reactor Regulation
U. S. Nuclear Commission
Washington, D. C. 20555-0001





Final Exercise Report

ST. LUCIE NUCLEAR POWER PLANT

Licensee: **Florida Power and Light**

Exercise Date: **February 16, 2000**

Report Date: **May 5, 2000**

**FEDERAL EMERGENCY MANAGEMENT AGENCY
REGION IV**

**3003 Chamblee-Tucker Road
Atlanta, Georgia 30341**

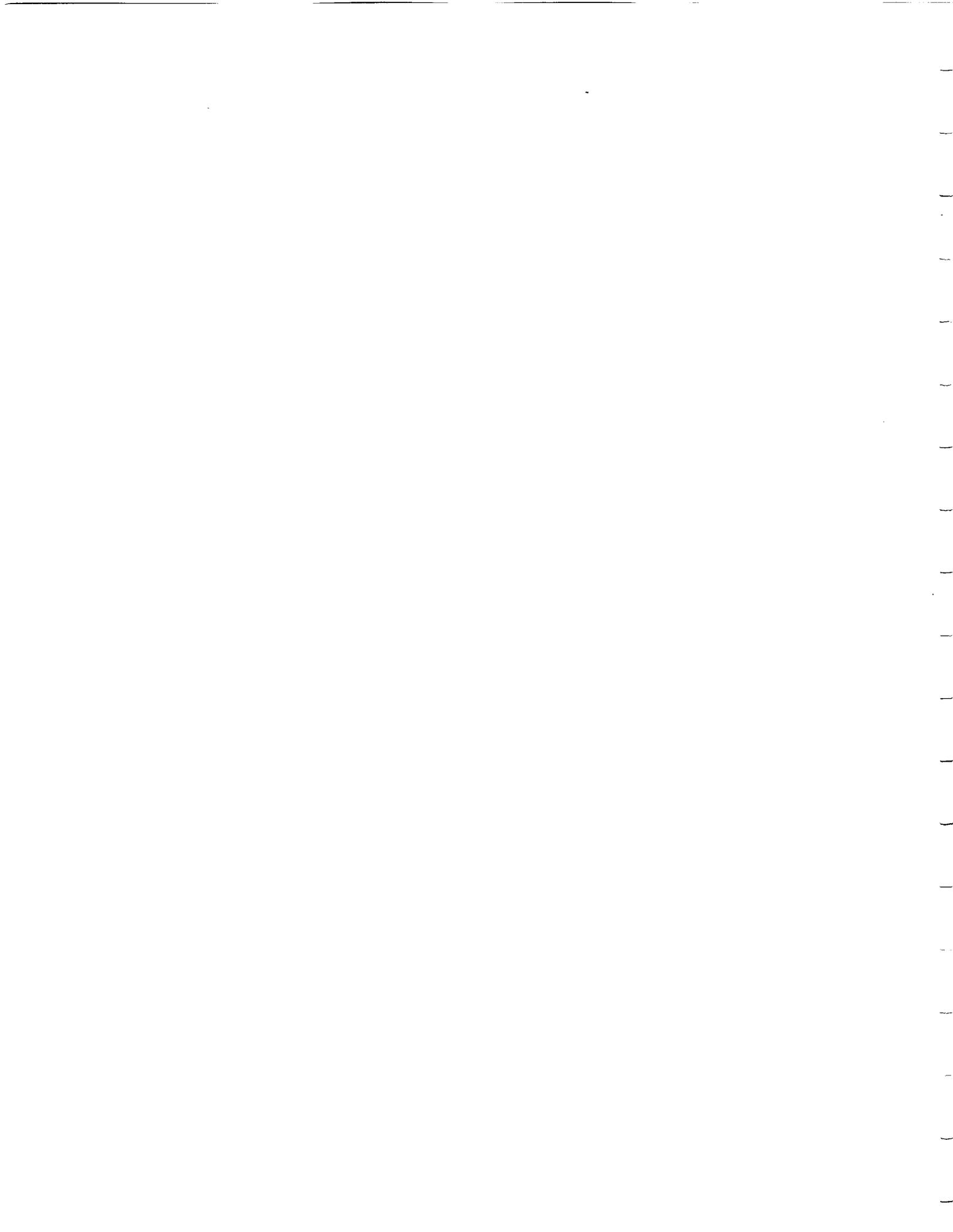
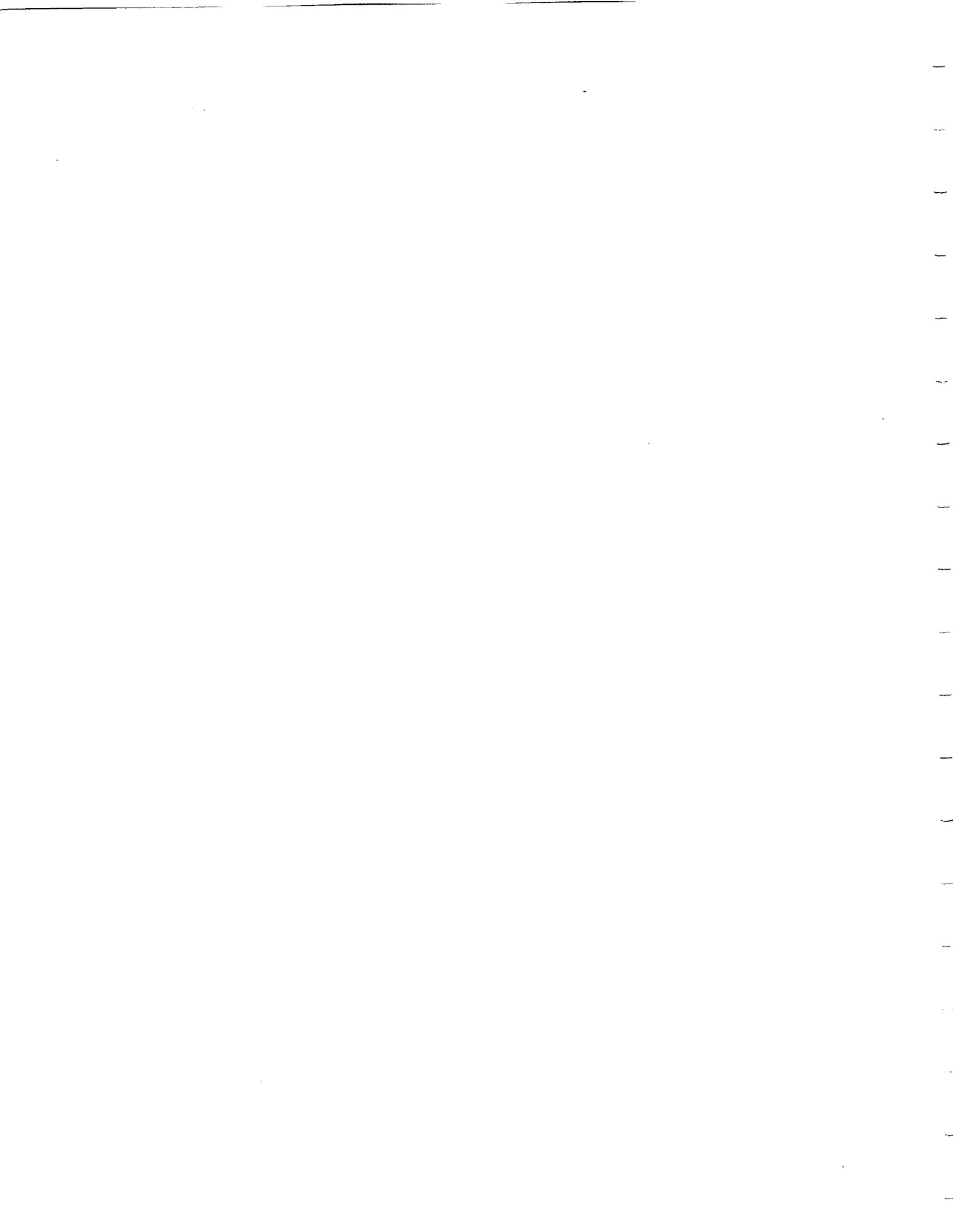


TABLE OF CONTENTS

	Page
I. EXECUTIVE SUMMARY	1
II. INTRODUCTION	2
III. EXERCISE OVERVIEW	4
A. Plume Emergency Planning Zone Description	4
B. Exercise Participants	4
C. Exercise Timeline	5
IV. EXERCISE EVALUATION AND RESULTS	8
A. Summary Results of Exercise Evaluation	8
B. Status of Jurisdictions Evaluated	10
1. STATE OF FLORIDA	12
1.1 Forward State Emergency Response Team	12
1.2 Dose Assessment/Emergency Operations Facility	12
1.3 Emergency News Center	13
1.4 Mobile Laboratory (MERL)	13
1.5 Radiological Field Monitoring Teams	14
2. RISK JURISDICTIONS	15
2.1 ST. LUCIE COUNTY	15
2.1.1 Emergency Operations Center	15
2.1.2 Hutchinson Island Parks	16
2.1.3 Protective Action for Schools	17
2.1.4 Emergency Worker Decontamination	17
2.1.5 Traffic Control Points	18
2.2 MARTIN COUNTY	18
2.2.1 Emergency Operations Center	18
2.2.2 Protective Action for Schools	19
2.2.3 Emergency Worker Decontamination	19
2.2.4 Traffic Control Points	20



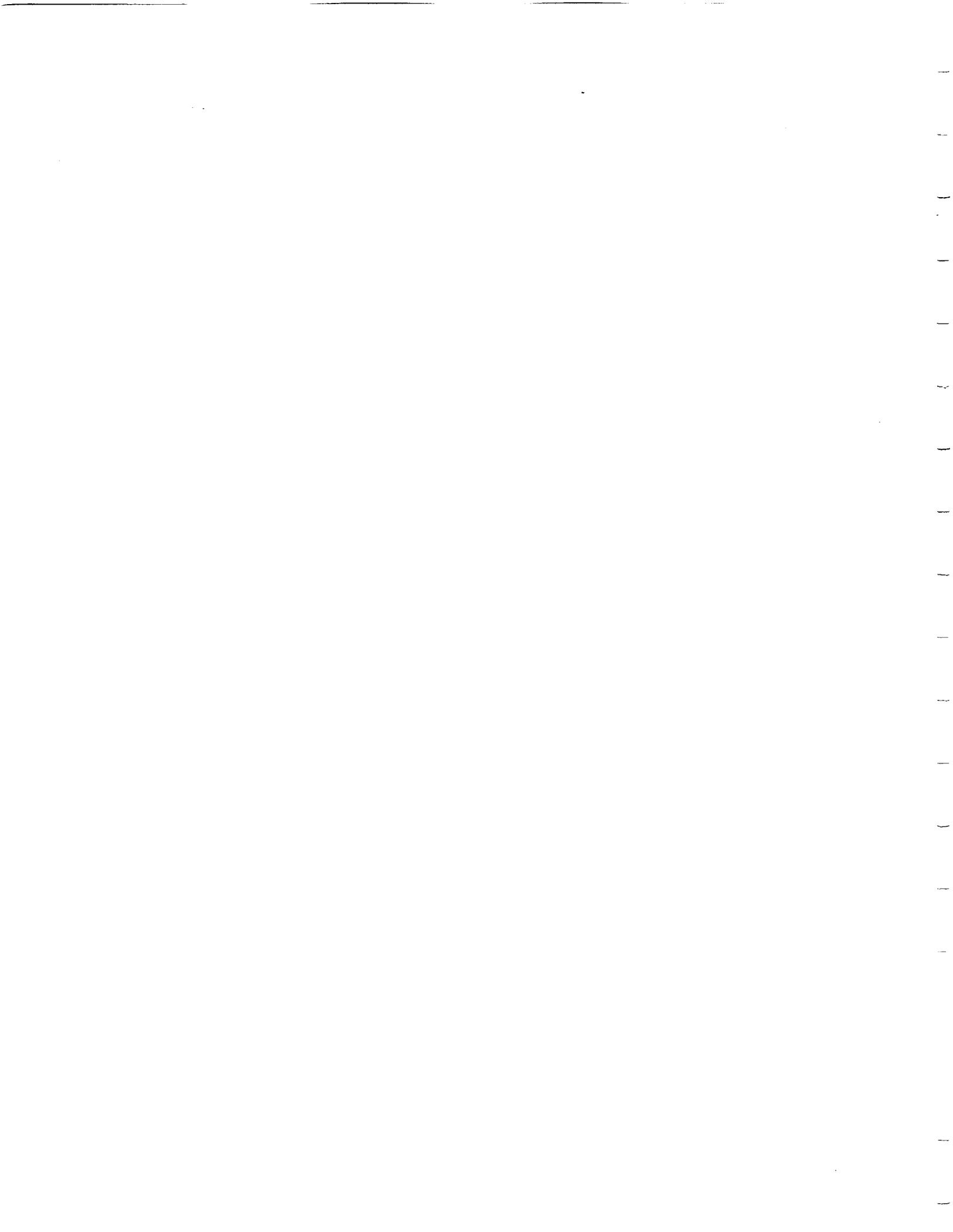
3.	SUPPORT JURSDICTIONS	20
3.1	INDIAN RIVER COUNTY	20
3.1.1	Emergency Operations Center	20
3.2	BREVARD COUNTY	21
3.2.1	Emergency Operations Center	21
3.3	PALM BEACH COUNTY	21
3.3.1	Reception and Congregate Care	21
4.	SUMMARY OF DEFICIENCIES/AREAs REQUIRING CORRECTIVE ACTION (ARCA).....	22
4.1	ARCAs Assessed 2000	22
4.1.1	55-00-08-A-01 Field Teams	22
4.2	PRIOR ARCAs - Resolved.....	22
4.2.1	55-98-A-25-01 MERL	22

Appendices

APPENDIX 1 – ACRONYMS AND ABBREVIATIONS.....	24
APPENDIX 2 - EXERCISE EVALUATORS.....	27
APPENDIX 3 - EXERCISE OBJECTIVES AND EXTENT-OF-PLAY AGREEMENT	29
APPENDIX 4 - EXERCISE SCENARIO.....	42

List of Tables

TABLE 1 - EXERCISE TIMELINE	6 & 7
TABLE 2 - SUMMARY RESULTS OF EXERCISE EVALUATION	9



I. EXECUTIVE SUMMARY

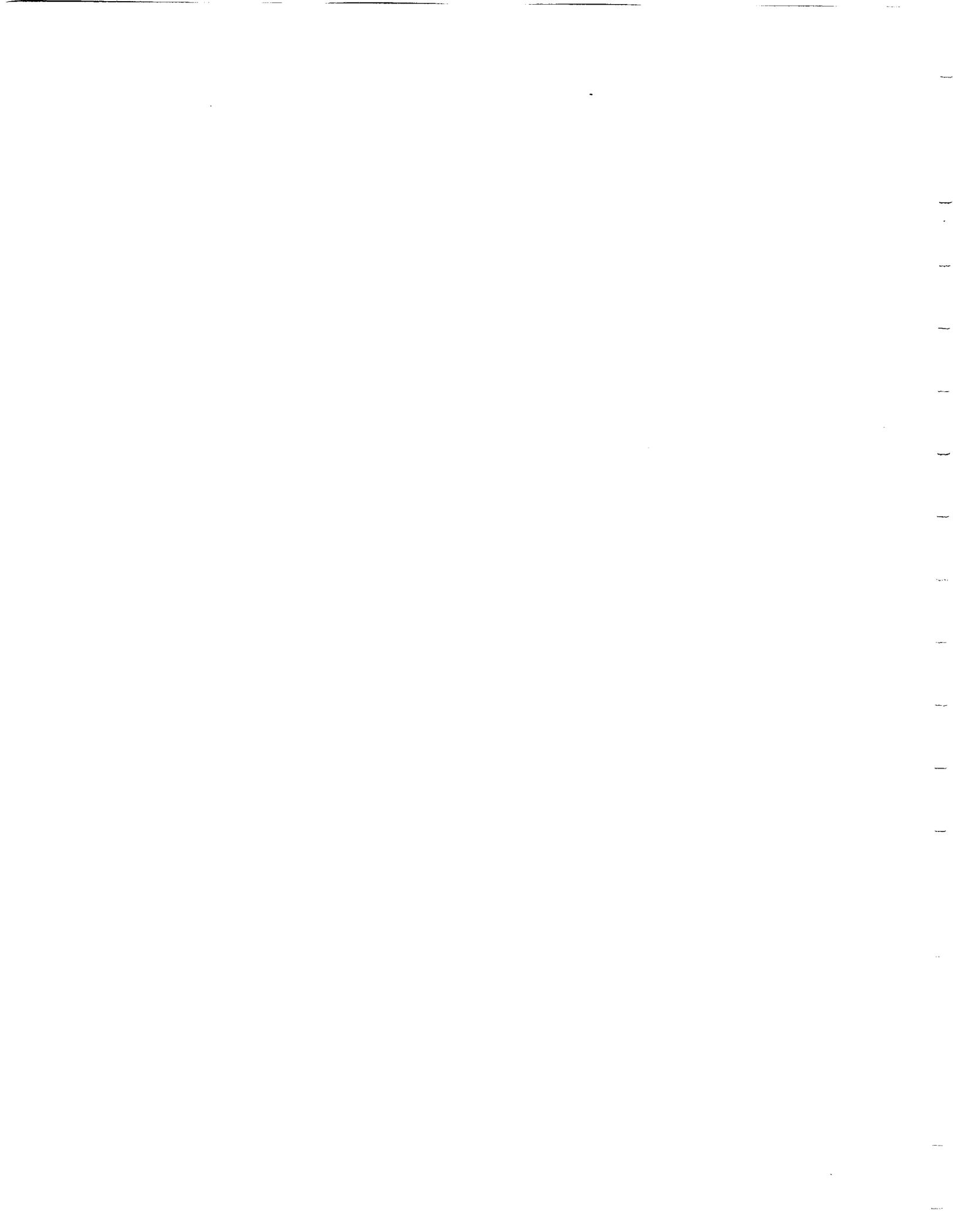
On February 16, 2000, a full participation, plume exposure pathway exercise was conducted in the emergency planning zone (EPZ) around the St. Lucie Nuclear Power Plant by the Federal Emergency Management Agency (FEMA), Region IV.

The purpose of the exercise was to assess the level of State and local preparedness in responding to a radiological emergency. This exercise was conducted in accordance with FEMA's policies and guidance for offsite preparedness exercises. The most recent exercise at this site was conducted on March 18, 1998. The qualifying emergency preparedness exercise was conducted February 10-12, 1982, at the St. Lucie Nuclear Power Plant.

The State of Florida, Risk Counties of Martin and St. Lucie, and Host Counties of Indian River, Brevard and Palm Beach participated in the St. Lucie Exercise. FEMA Region IV wishes to acknowledge the exceptional efforts of the many individuals who planned, prepared for, and participated in this exercise. Protecting the public health and safety is the full-time job of some of the exercise participants and an assigned responsibility for others. Others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities. The cooperation and teamwork of all participants demonstrated the quality of training and preparation. This enthusiasm ensured success in each evaluated activity during the exercise.

The highlights of the exercise included an all-hazards approach used by the host counties for their demonstrations. Palm Beach County used the reception and congregated care demonstration as training for their HazMat team. Indian River and Brevard Counties used the exercise for tabletop training for their EOC staff members. Brevard and Indian River Counties realize the potentials for mutual cooperation from the Host and Risk Counties, and should be applauded for their enthusiastic participation. Martin and St. Lucie Counties had excellent demonstrations of emergency worker decontamination. The overall exercise clearly demonstrated the commitment of all parties to their public's health and safety.

The State and local organizations demonstrated the knowledge of, and the ability to implement their emergency response plans and procedures. There were no Deficiencies and only one Area Requiring Corrective Action (ARCA) identified as a result of this exercise. One prior ARCA issued for MERL procedures from the 1998 St. Lucie exercise was resolved during the Crystal River exercise conducted on October 14, 1998.



II. INTRODUCTION

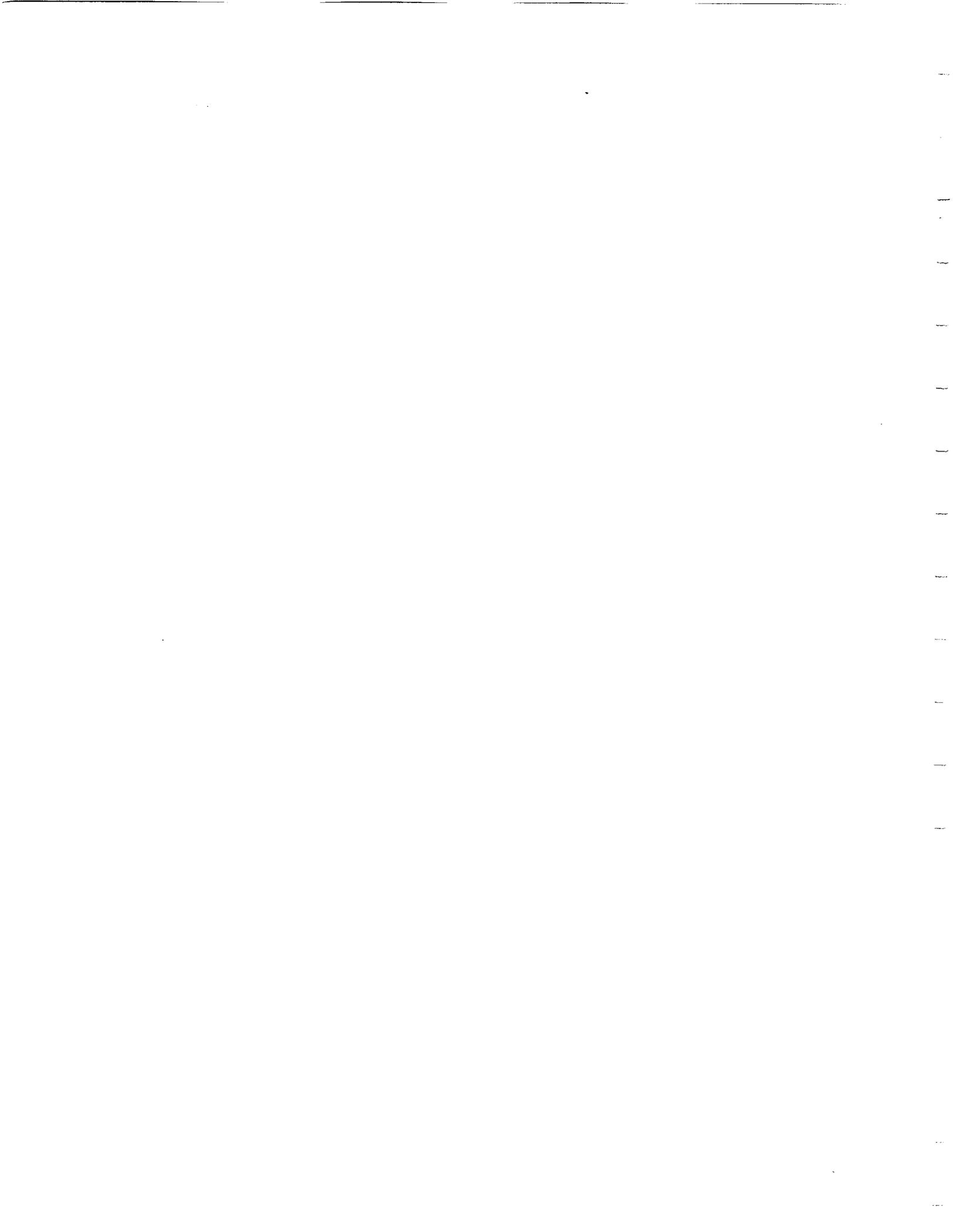
On December 7, 1979, the President directed FEMA to assume the lead responsibility for all offsite nuclear planning and response. FEMA's activities are conducted pursuant to 44 Code of Federal Regulations (CFR) Parts 350, 351 and 352. These regulations are a key element in the Radiological Emergency Preparedness (REP) Program that was established following the Three Mile Island Nuclear Station accident in March 1979.

FEMA Rule 44 CFR 350 establishes the policies and procedures for FEMA's initial and continued approval of State and local governments' radiological emergency planning and preparedness for commercial nuclear power plants. This approval is contingent, in part, on State and local government participation in joint exercises with licensees.

FEMA's responsibilities in radiological emergency planning for fixed nuclear facilities include the following:

- Taking the lead in offsite emergency planning and in the review and evaluation of radiological emergency response plans (RERP) and procedures developed by State and local governments;
- Determining whether such plans and procedures can be implemented on the basis of observation and evaluation of exercises of the plans and procedures conducted by State and local governments;
- Responding to requests by the Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA (Federal Register, Vol. 58, No. 176, September 14, 1993).
- Coordinating the activities of Federal agencies with responsibilities in the radiological emergency planning process:
 - Department of Commerce
 - Nuclear Regulatory Commission
 - Environmental Protection Agency
 - Department of Energy
 - Department of Health and Human Services
 - Department of Transportation
 - Department of Agriculture
 - Department of the Interior, and
 - Food and Drug Administration

Representatives of these agencies serve on the FEMA Region IV Regional Assistance Committee (RAC) which is chaired by FEMA.



Formal submission of the RERPs for the St. Lucie Nuclear Power Plant to FEMA Region IV, by the State of Florida occurred on August 26, 1983. Formal approval of these RERPs was granted on February 14, 1984.

A joint REP exercise was conducted on February 16, 2000, by FEMA Region IV to assess the capabilities of State and local emergency preparedness organizations in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the St. Lucie Nuclear Power Plant. The purpose of this report is to present the exercise results and findings on the performance of the offsite response organizations (ORO) during a simulated radiological emergency.

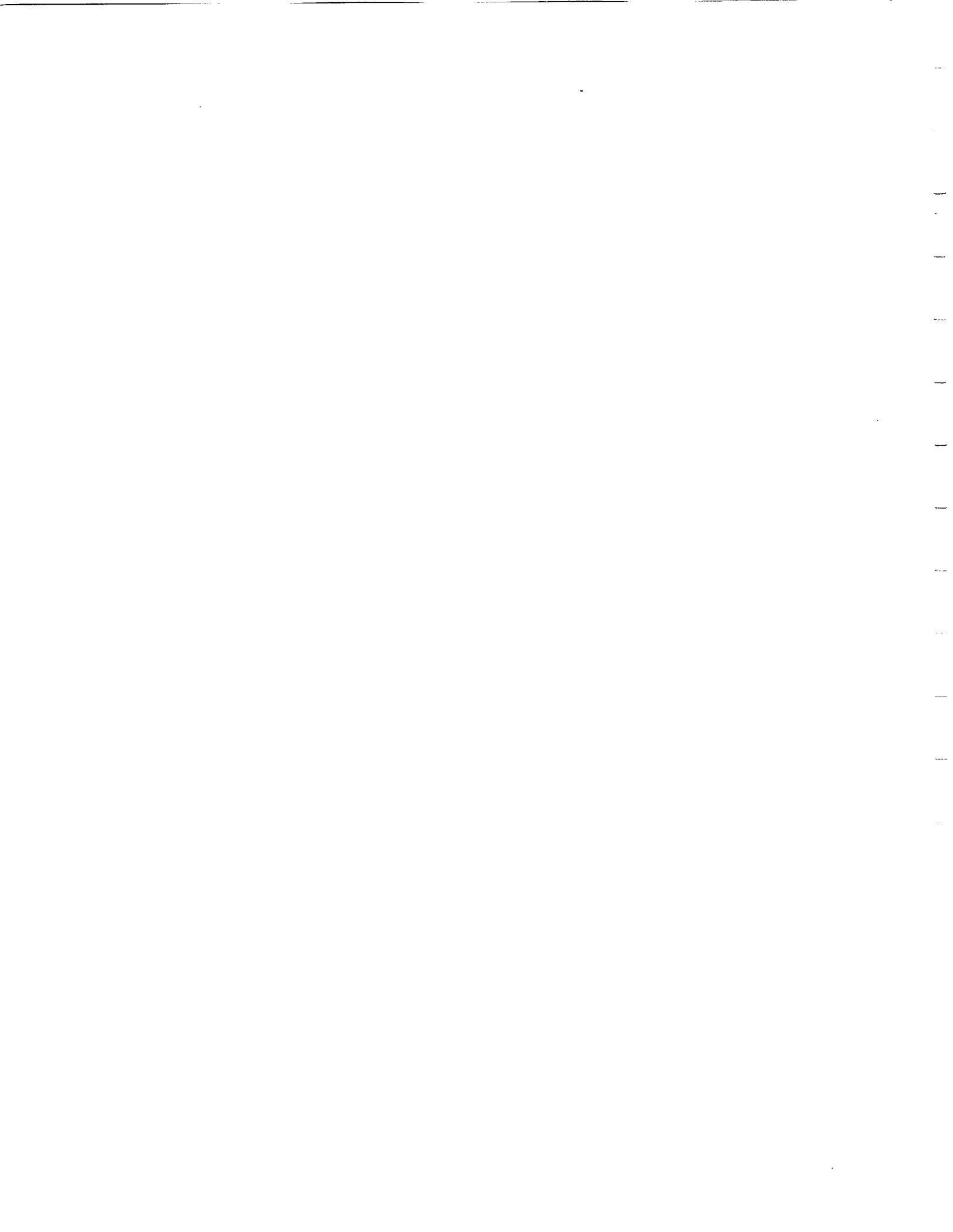
The findings presented are based on the evaluations of the Federal evaluator team, with final determinations being made by the FEMA Region IV RAC Chairperson, and the Chief Evaluator, with final approval by the Regional Director.

The criteria utilized in the FEMA evaluation process are contained in:

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980;
- FEMA-REP-14, "Radiological Emergency Preparedness Exercise Manual," September 1991; and
- FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September 1991.

Section III of this report, entitled "Exercise Overview," presents basic information and data relevant to the exercise. This section of the report contains a description of the plume pathway EPZ, a listing of all participating jurisdictions and functional entities which were evaluated, and a tabular presentation of the time of actual occurrence of key exercise events and activities.

Section IV of this report, entitled "Exercise Evaluation and Results," presents detailed information on the demonstration of applicable exercise objectives at each jurisdiction or functional entity evaluated in a jurisdiction-based, issues-only format. This section also contains: (1) descriptions of all Deficiencies and ARCAs assessed during this exercise, recommended corrective actions, and the State and local governments' response, and (2) descriptions of ARCAs assessed during previous exercises and the status of the OROs' efforts to resolve them.



III. EXERCISE OVERVIEW

Contained in this section are data and basic information relevant to the February 16, 2000 exercise to test the offsite emergency response capabilities in the area surrounding the St. Lucie Nuclear Power Plant.

A. Plume EPZ Description

The St. Lucie Nuclear Power Plant is owned and operated by Florida Power and Light Company (FP&L). It is located on Hutchinson Island, Florida, southeast of the City of Ft. Pierce in St. Lucie County. Parts of St. Lucie and Martin Counties lie within the 10-mile EPZ. Approximately 170,000 people reside within the 10-mile EPZ. The main use of the land is residential and recreational.

Both Hutchinson Island and a southern portion of North Hutchinson Island are located within the EPZ. Three causeways link Hutchinson Island to the mainland, and one causeway from the southern end of North Hutchinson Island to the mainland. Each of the causeways lead to U S Highway 1 and I-95.

B. Exercise Participants

The following agencies, organizations, and units of government participated in the St. Lucie Nuclear Power Plant exercise on February 16, 2000.

STATE OF FLORIDA

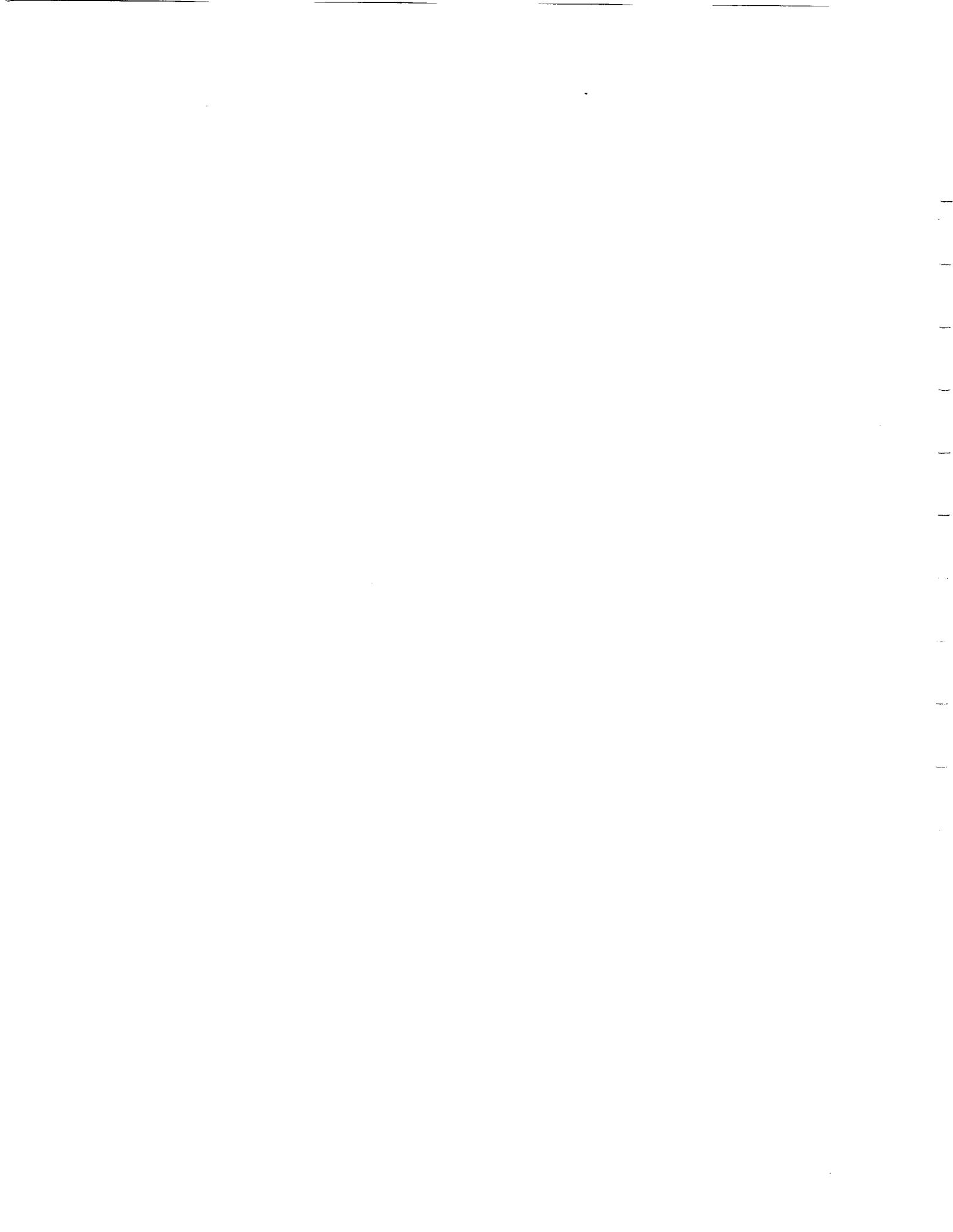
Florida Division of Emergency Management
Florida Department of Health
Bureau of Radiological Control
Florida Department of Transportation
Florida Department of Public Safety

RISK JURISDICTIONS

Martin County
St. Lucie County

SUPPORT JURISDICTIONS

Brevard County
Indian River County
Palm Beach County



PRIVATE/VOLUNTEER ORGANIZATIONS

American Red Cross (ARC)
Amateur Radio Emergency Services (ARES)
Radio Amateur Civil Emergency Service (RACES)

C. Exercise Timeline

Table 1, on the following page, presents the time at which key events and activities occurred during the St. Lucie Nuclear Power Plant exercise on February 16, 2000.



TABLE 1. Exercise Timeline

DATE AND SITE: February 16, 2000 – St. Lucie Nuclear Power Plant

Emergency Classification Level or Event	Time Declared	Time That Notification Was Received or Action Was Taken			
		EOF	F-SERT	ST. LUCIE	MARTIN
Unusual Event	0726	0726	N/A	0734	0726
Alert	0858	0858	N/A	0910	0910
Site Area Emergency	1021	1021	N/A	1030	1021
General Emergency	1103	1103	1103	1112	1112
Rad. Release Started	1125	1125	1125	1134	1144
Release Terminated	Endex	Endex	Endex	Endex	Endex
Facility Declared Operational		0945	1041	1000	0950
Declaration of State of Emergency (SOE)		N/A	1015	Local SOE – 1050	Local SOE - 1022
Exercise Terminated		1345	1345	1347	1347

5

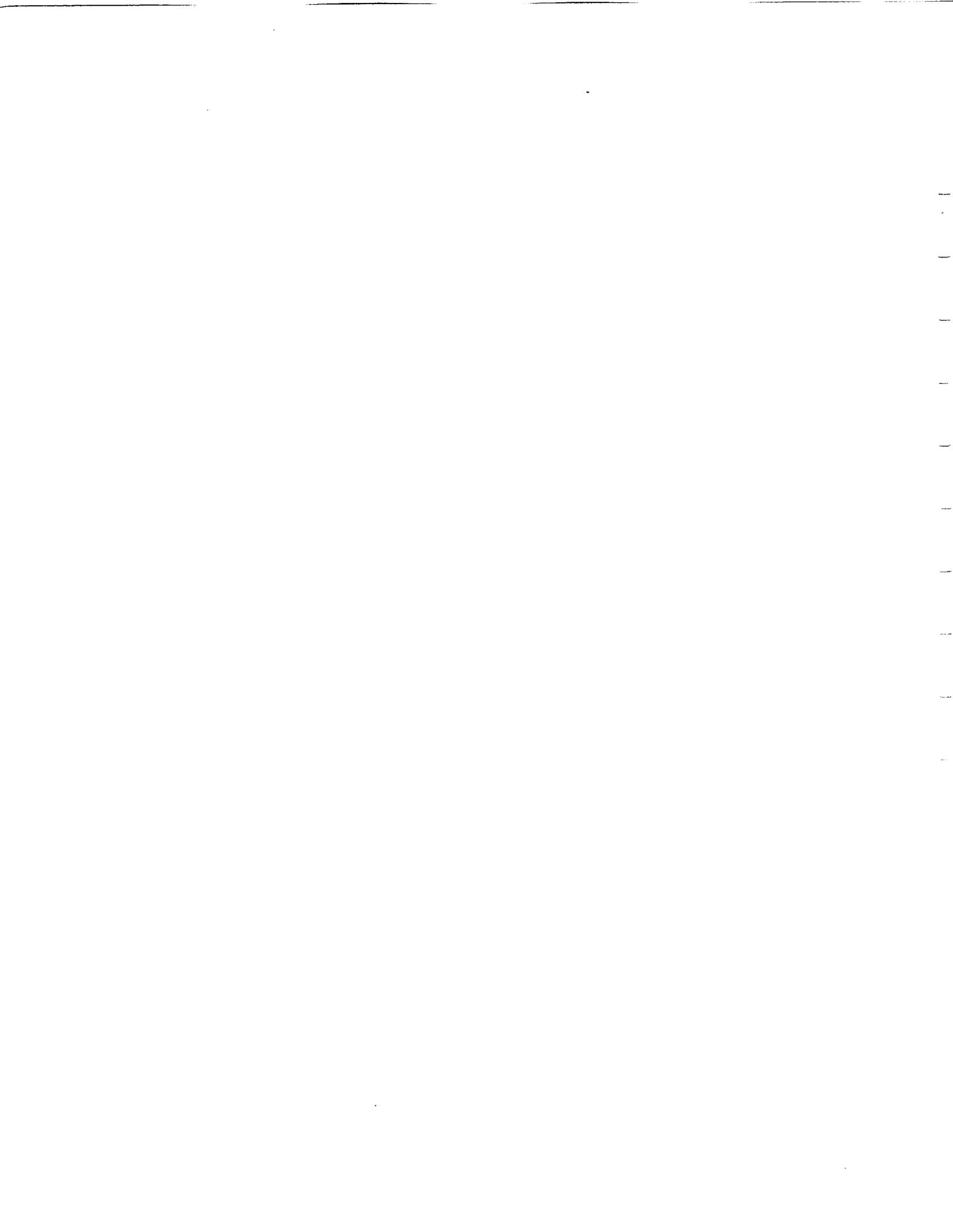
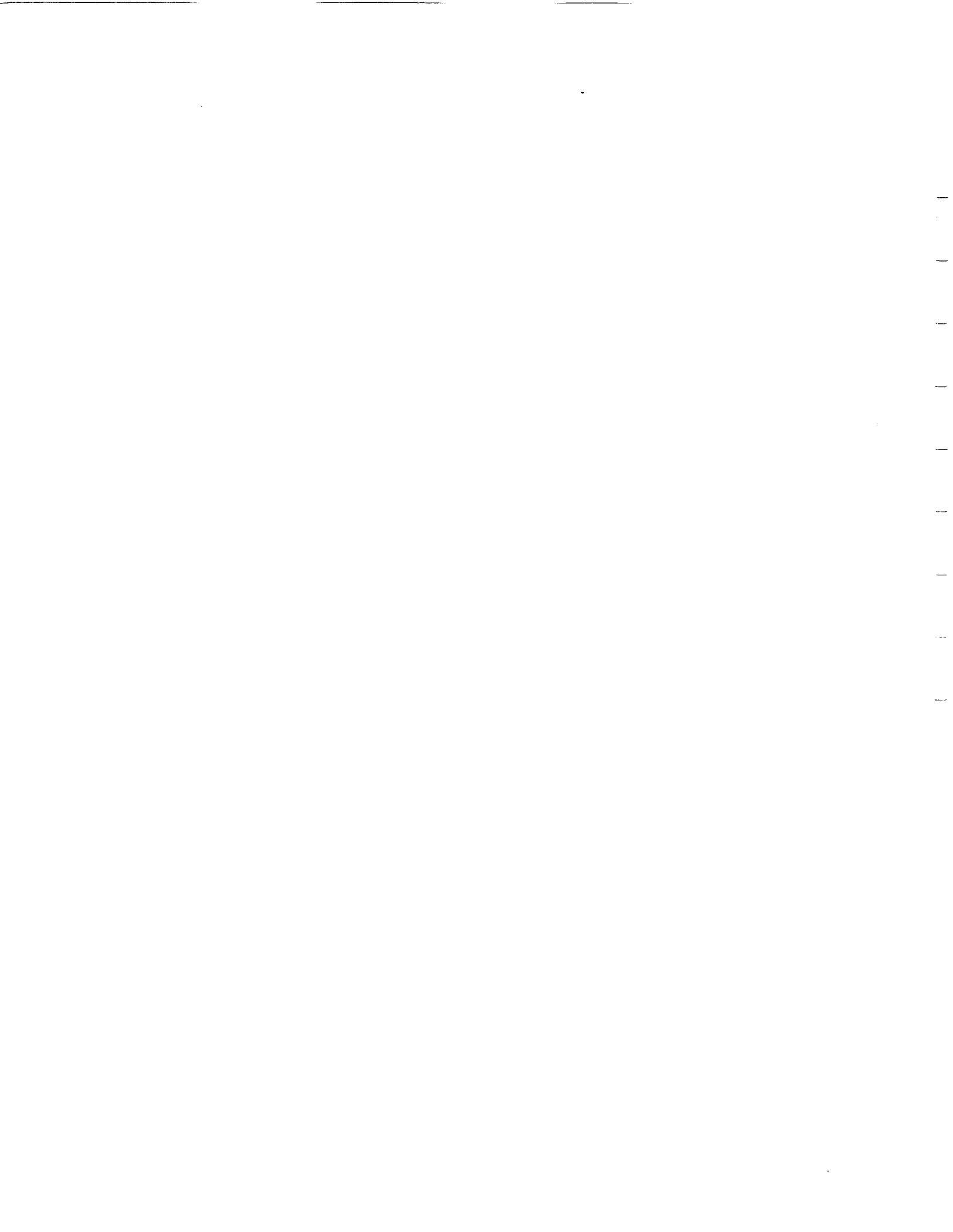


TABLE 1. Exercise Timeline

DATE AND SITE: February 16, 2000 - St. Lucie Nuclear Power Plant

Emergency Classification Level or Event	Time Declared	Time That Notification Was Received or Action Was Taken		
		F-SERT	ST. LUCIE	MARTIN
Early Precautionary Actions:	N/A		1022 - Cleared parks and beaches 1053 - Completed School & Special Needs population evacuation	1000 - Special Needs population evacuation 1022 - Cleared parks, beaches and The Environmental Center
1st Protective Action Decision: Stay tuned Message Site "A"	1045		1045	1045
1st Siren Activation			1055	1055
1st EAS Message Site "A"			1055	1055
2nd Protective Action Decision Evacuate: 1, 2, 6, 7 and 8 Shelter: 3, 4 and 5	1131		1131	1131
2nd Siren Activation			1145	1145
2nd EAS Message A-3			1145	1145
3rd Protective Action Decision: Evacuate: 1, 2, 5, 6, 7 and 8 Shelter: 3 and 4	1215		1215	1215
3rd Siren Activation			1230	1230
3rd EAS Message A-7			1230	1230
KI Administration Decision:	1150 Voluntary ingestion for State FMT members only	1240 *All Deputies within 5-miles to ingest KI	1250 *All field personnel in Hot Zone ingest KI	

*Counties have independent authority to make additional KI decisions, based on the State's decision.



IV. EXERCISE EVALUATION AND RESULTS

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities which participated in the February 16, 2000 exercise to test the offsite emergency response capabilities of state and local governments in the 10-mile EPZ around the St. Lucie Nuclear Power Plant.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of criteria delineated in exercise objectives contained in FEMA-REP-14, REP Exercise Manual, dated September 1991. Detailed information on the exercise objectives and the extent-of-play agreement used in this exercise are found in Appendix 3 of this report.

A. Summary Results of Exercise Evaluation - Table 2

The matrix presented in Table 2, on the following page, presents the status of all exercise objectives from FEMA-REP-14 which were scheduled for demonstration during this exercise, by all participating jurisdictions and functional entities. Exercise objectives are listed by number and the demonstration status of those objectives is indicated by the use of the following letters:

- M - Met (No Deficiency or ARCAs assessed and no unresolved ARCAs from prior exercises)
- D - Deficiency assessed
- A - ARCA(s) assessed or unresolved ARCA(s) from prior exercise(s)
- N - Not Demonstrated (Reason explained in Subsection B)



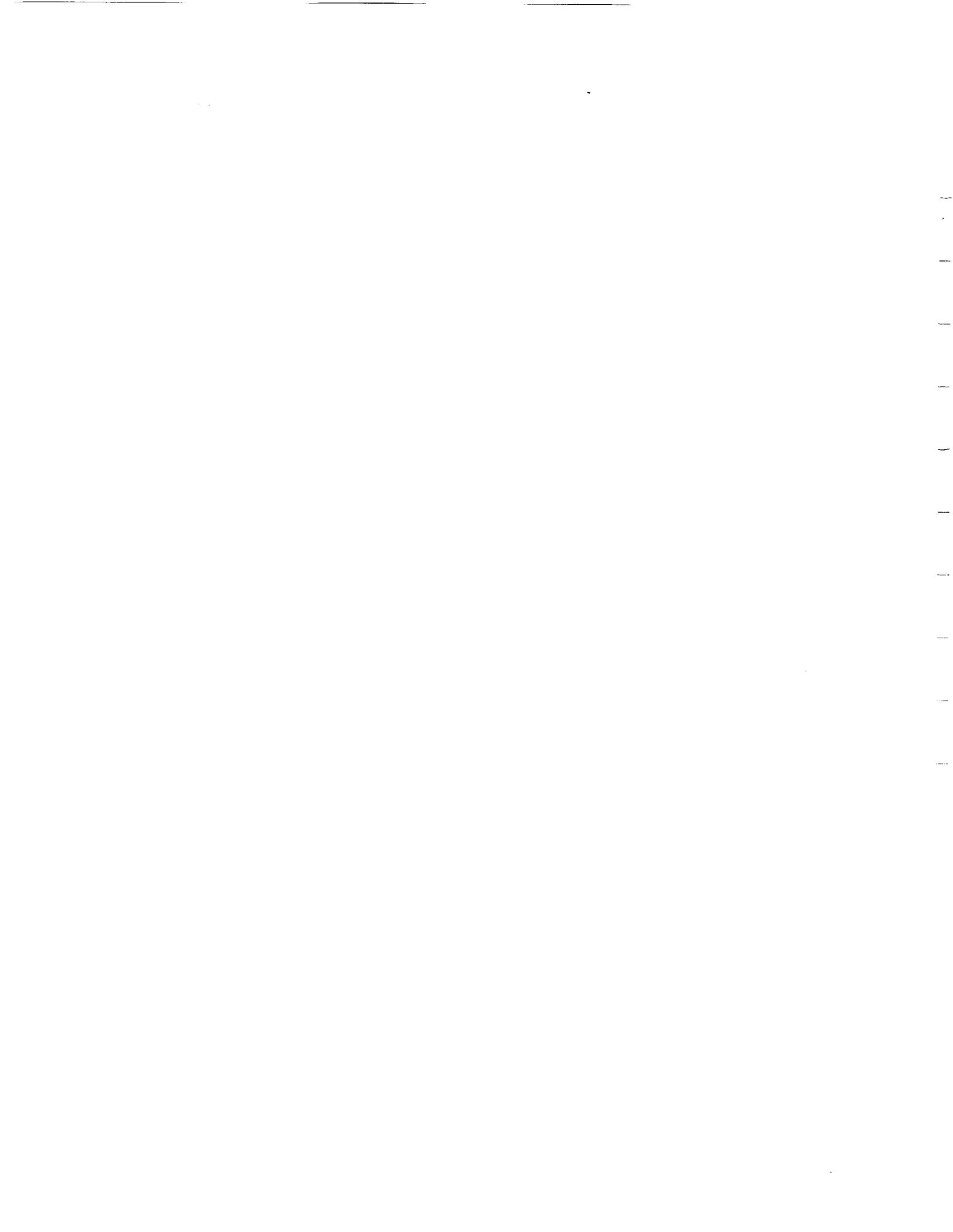
Table 2. Summary of Exercise Evaluation

DATE AND SITE: February 16, 2000 St. Lucie Nuclear Power Plant

Jurisdiction or Functional Entity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	
STATE OF FLORIDA																																		
State Emergency Response Team	M	M	M	M					M					M									M										M	
Dose Assessment/EOF	M	M	M	M			M		M					M																			M	
Emergency News Center	M	M		M							M	M	M																					
Mobile Laboratory	M			M	M																					M								
Field Monitoring Teams	M			M	M	M		A																										
ST. LUCIE COUNTY																																		
Emergency Operations Center	M	M	M	M	M				M	M	M		M		M									M								M		
Hutchinson Island Parks											M																							
Protective Actions for Schools				M	M											M																		
E W Decontamination					M																		M											
Traffic Control Points					M												M																	
MARTIN COUNTY																																		
Emergency Operations Center	M	M	M	M	M				M	M	M		M		M									M								M		
Protective Actions for Schools																M																		
E W Decontamination					M																		M											
Traffic Control Points					M												M																	
INDIAN RIVER COUNTY																																		
Emergency Operations Center	M	M	M	M							M	M	M	M		M																		
BREVARD COUNTY																																		
Emergency Operations Center	M	M	M	M							M	M	M	M		M																		
PALM BEACH COUNTY																																		
Reception /Congregate Care/TCPs					M												M	M	M															

LEGEND: M = Met D = Deficiency A = ARCA

6



B. Status of Jurisdictions Evaluated

This subsection provides information on the evaluation of each participating Jurisdiction or functional entity in an issues only format. Presented below is a definition of the terms used in this subsection relative to objective demonstration status.

- **Met** - Listing of the demonstrated exercise objectives under which no Deficiencies or ARCAs were assessed during this exercise and under which no ARCAs assessed during prior exercises remain unresolved.
- **Deficiency** - Listing of the demonstrated exercise objectives under which one or more Deficiencies was assessed during this exercise. Included is a description of each Deficiency and recommended corrective actions.
- **Area Requiring Corrective Actions** - Listing of the demonstrated exercise objectives under which one or more ARCAs were assessed during the current exercise or ARCAs assessed during prior exercises that remain unresolved. Included is a description of the ARCAs assessed during this exercise and the recommended corrective action to be demonstrated before or during the next biennial exercise.
- **Not Demonstrated** - Listing of the exercise objectives which were not demonstrated as scheduled during this exercise and the reason they were not demonstrated.
- **PRIOR ARCAs - Resolved** - Descriptions of ARCAs assessed during previous exercises which were resolved in this exercise and the corrective actions demonstrated.
- **PRIOR ARCAs - Unresolved** - Description of ARCAs assessed during prior exercises which were not resolved in this exercise. Included is the reason the ARCA remains unresolved and recommended corrective actions to be demonstrated before or during the next biennial exercise.

The following are definitions of the two types of exercise issues, which are discussed in this report.

- A **Deficiency** is defined in FEMA-REP-14 as "...an observed or identified inadequacy of organizational performance in an exercise that could cause a finding that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a nuclear power plant."

- An **ARCA** is defined in FEMA-REP-14 as "...an observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety."

FEMA has developed a standardized system for numbering exercise issues (Deficiencies and ARCAs). This system is used to achieve consistency in numbering exercise issues among FEMA Regions and site-specific issues on a nationwide basis.

The identifying number for Deficiencies and ARCAs includes the following elements, with each element separated by a hyphen (-).

- **Plant site Identifier** - A two-digit number corresponding to the Utility Billable Plant Site Codes.
- **Exercise Year** - The last two digits of the year the exercise was conducted.
- **Objective Number** - A two-digit number corresponding to the objective number in FEMA-REP-14.
- **Issue Classification Identifier** - (D = Deficiency, A = ARCA). Only deficiencies and ARCAs are included in exercise reports.
- **Exercise Issue Identification Number** - A separate two (or three) digit indexing number assigned to each issue identified in the exercise.

1. STATE OF FLORIDA

1.1 Forward State Emergency Response Team

The Forward State Emergency Response Team (F-SERT) assumed direction and control at 1041 at the FP&L Emergency Operations Facility (EOF). There was excellent communication between the State, utility operator and the county officials. This dialogue enhanced the decision-making process and resulted in rapid decisions concerning public notification and protective actions. The professionalism of the State and local emergency management officials resulted in a timely, organized demonstration of their abilities to protect the health and safety of the public.

- a. **MET: Objectives 1, 2, 3, 4, 9, 14, 23 and 28**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

1.2 Dose Assessment/Emergency Operations Facility

The utility operator's EOF is an excellent facility from which all participating organizations can effectively manage ongoing emergency operations. Direction and control, decision-making, communications, coordination, and the flow of technical information between the utility operator, the State and applicable local government officials were exemplary. All State and local government officials deployed to the EOF were well trained, followed applicable procedures; and overall, they carried out their respective responsibilities in an efficient and professional manner consistent with the preservation of public health and safety.

- a. **MET: Objectives 1, 2, 3, 4, 7, 9, 14 and 28**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

1.3 Emergency News Center

All activities related to providing emergency information to the media was well demonstrated at the Emergency News Center (ENC) by a very competent and well trained staff. The volume of prepared information available for the public information staff is commendable. The mock media interaction identified that information needs might more effectively concentrate on upcoming off-site planned activities, focus on status reports and incorporate a set of talking points for each emergency classification level. This proactive presentation process is recommended as an enhancement to an already excellent operation and will compliment well planned response activities reporting. This will ensure timely provision of information to the affected population.

- a. **MET:** Objectives 1, 2, 4, 11, 12 and 13
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

1.4 Mobile Laboratory

The Mobile Emergency Radiological Laboratory (MERL) was located at FP&L's service center. The hot line, sample preparation vehicle and analytic laboratory vehicle functioned in an exemplary fashion, demonstrating their ability to perform radiological analysis in the field. The MERL Supervisor was very knowledgeable and provided excellent leadership to the MERL team.

- a. **MET:** Objectives 1, 4, 5 and 25
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:**

Issue No: 55-98-A-25-01

Description: MERL staff did not carry out some contamination control steps

called for in their Standard Operating Procedures (SOP). According to SOP-8, the following steps are to be taken in handling samples:

“The Field Operations Specialists will survey the sample at the hot line for external radiation field levels. The instrument used with its serial number and the background and radiation level for both a contact and a one foot measurement in units of micro-R/hr or mR/hr will be entered on the tag in the appropriate area....”

“The Field Team Coordinator will take a swipe of the outside of the clean bag. The swipe will be measured with a GM frisker. The instrument used with its serial number and the background level and measurement in units of CPM will be recorded on the clean tag in the appropriate area.”

Staff members did not carry out these steps at any time during the exercise. Also, SOP 9, for operations within the MERL, calls for the following step to be taken:

“The Ludlum 177 frisking station must be set up near the front of the MERL. The background levels must be monitored and should remain less than 100 cpm.”

This step was not taken.

Corrective Action Demonstrated: The Bureau of Radiation Control re-demonstrated the MERL operations during the October 1998 Crystal River Exercise. MERL staff carried out all contamination control steps called for in the SOP, including surveying the samples at the hotline, taking swipes of the outsides of clean sample bags and setting up a survey instrument near the front of the MERL to ensure a clean environment for counting. In short, the MERL staff fully complied with their well written procedures.

f. **PRIOR ARCAs - UNRESOLVED: NONE**

1.5 Radiological Field Monitoring Teams

The Field Monitoring Teams (FMTs) were dispatched from the FP&L Service Center in Port St. Lucie. The FMTs had excellent communication with the Field Team Coordinator located at the EOF. The FMTs successfully demonstrated the appropriate use of equipment for determining ambient field radiation measurements. The FMTs demonstrated the collection of air samples (radioiodine and particulate radioactivity). A shortcoming in the procedures was identified during the exercise for air sampling. The SOP was corrected the next day and handed to the Chief Evaluator. The samples were appropriately bagged, labeled and transmitted to the MERL for analysis. The two teams demonstrated good health physics practices and followed their SOPs closely.

a. **MET:** Objectives 1, 4, 5 and 6

b. **DEFICIENCY: NONE**

c. **AREAS REQUIRING CORRECTIVE ACTION:**

Issue No.: 55-00-08-A-01

Description: Procedures in the SOPs were closely followed. The air sampler was set up and the team collected 13 cubic feet of air. During the air sample collection, only one open and closed measurement was taken. Open and closed measurements with the survey meter should be taken at the beginning, near the middle, and at the completion of taking each air sample (NUREG I.9). The Figure 6-1; FOS Measurement Form (page 14, SOP 6) in the Bureau of Radiation Control, Department of Health, State of Florida, Standard Operating Procedure 1, illustrates three Beta/Gamma Field Measurements spaces to be completed by the FMT, however the SOP does not specify that the team is to make these measurements and at what time.

Recommendation: Revise the SOP to include the gamma exposure measurements to be made at the beginning, near the middle, and at the completion of taking each air sample and provide appropriate training to field teams.

Schedule of Corrective Action: The appropriate section of the SOP was corrected and given to the Chief Evaluator the day after the exercise. It was agreed that this procedure will be re-demonstrated at the October 2000, Crystal River Exercise.

d. **NOT DEMONSTRATED: NONE**

e. **PRIOR ARCAs - RESOLVED: NONE**

f. **PRIOR ARCAs - UNRESOLVED: NONE**

2. **RISK JURISDICTIONS**

2.1 **ST. LUCIE COUNTY**

2.1.1 **Emergency Operations Center**

The St. Lucie County Emergency Operations Center (EOC) staff is a group of well trained professionals who worked as a team to inform and protect the residents of the County during the exercise at the St. Lucie Nuclear Power Plant. Mobilization of personnel was simulated, direction and control was exceptional and communications with the State and adjacent counties was ongoing during the exercise. Coordination and the logging of activities was excellent, as were the numerous displays within the EOC. Protective actions were well thought out and appropriate for the situation. Alert and

notification of the public was timely. The Public Information Officer (PIO) and rumor control staff worked diligently to keep the public informed and to respond to questions from the public. The County maintains an excellent special needs program that was implemented during the exercise. Participation by amateur radio and other volunteer agencies enhanced the County's operation, as did the representatives from the utility and the State.

- a. **MET:** Objectives 1, 2, 3, 4, 5, 9, 10, 11, 13, 15, 23 and 28
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

2.1.2 Hutchinson Island Parks

Twenty-six public access areas (beaches, boat ramps and parks) used by transients on Hutchinson Island in St. Lucie County, were visited on February 16, 2000. The areas were checked for placement of siren notification signs. With the exception of a few new areas, the required signage was present and in good condition. The new areas were listed and given to county officials for action. Each siren within the 10-mile EPZ also had notification signs installed. An additional 24 access areas not in the extent-of-play (EOP) were visited and the results were provided to the county.

- a. **MET:** Objective 11
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

2.1.3 Protective Action for Schools

Seven schools were visited in the St. Lucie County School District on February 16, 2000. Each school had a plan for responding to a potential incident at the St. Lucie Nuclear Power Plant. All personnel interviewed were knowledgeable about the procedures and were highly motivated to protect the children in their care. Communications were described; the schools would be notified via the emergency radio system (VA 1000) and/or telephone. The School Resources Officers would provide escort to evacuating students. All buses are equipped with radios.

- a. **MET:** Objective 4, 5 and 16
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

2.1.4 Emergency Worker Decontamination

Decontamination of emergency workers and vehicles was demonstrated in the parking area of the New York Mets Stadium, immediately outside the 10-mile EPZ. The St. Lucie County/Fort Pierce HazMat Unit functioned as the decontamination team. The stadium locker room was unavailable for full demonstration, therefore, evaluators were given a walk through of the locker room and procedures for personnel decontamination were explained in detail. All personnel were knowledgeable of dosimetry and monitoring instruments, as well as the procedures for emergency worker and vehicle decontamination. The members of the County's HazMat unit and the REP Coordinator are commended for this exceptional demonstration.

- a. **MET:** Objectives 5 and 22
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

2.1.5 Traffic Control Points

The capability to effectively manage traffic and access control was demonstrated through interviews at the EOC with members of the St. Lucie County Sheriff's Department and the Florida Highway Patrol. The counties, cities and State obviously work together to conduct traffic and access control. The State provides as many as 150 troopers to assist the counties with traffic control. The two officers interviewed were both very knowledgeable about traffic control and had considerable experience during hurricane evacuations. Two additional deputies from the St. Lucie County Sheriff's Department were interviewed about dosimetry. All officers were very knowledgeable about dosimetry, its operation, reporting requirements and turn back values. They were familiar with Potassium Iodine (KI), its purpose, and how often it should be taken.

- a. **MET:** Objectives 5 and 17
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

2.2 MARTIN COUNTY

2.2.1 Emergency Operations Center

The Martin County EOC is co-located with the E911 Emergency Medical Services (EMS) rescue dispatch center. All communication equipment performed without error. Amateur Radio (ARES/RACES) was represented with five operators and radios for backup communication, emergency power was available if needed. Status boards, maps and displays were updated frequently and positioned so all Emergency Support Functions (ESFs) could view them. Message flow and use of the EM 2000 computer system worked well and contributed to a successful demonstration. Both the special needs and rumor control functions were coordinated and performed in a professional and timely fashion. Direction and control was exceptionally demonstrated by the Emergency Management Agency (EMA) Director and REP Planner with frequent EOC briefings and roundtable discussions with each ESF.

- a. **MET:** Objectives 1, 2, 3, 4, 5, 9, 10, 11, 13, 15, 23 and 28
- b. **DEFICIENCY:** NONE

- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.2.2 Protective Action for Schools

The Supervisor of Facilities for the Martin County Schools was interviewed at the Martin County EOC. The principal of Jensen Beach Elementary School was interviewed at the school. School officials demonstrated a thorough knowledge of their duties and responsibilities.

- a. **MET: Objective 16**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.2.3 Emergency Worker Decontamination

Members of the Martin County Fire Rescue Department demonstrated emergency worker decontamination at Fire Station #14 on February 14, 2000. The decontamination team monitored three vehicles for contamination and identified one vehicle and one driver that had to be decontaminated. Vehicle decontamination took place outside the fire station and personnel decontamination was done inside the station, in the apparatus bays. Plastic tarps were utilized to make separate shower/decontamination areas for men and women. Decontamination procedures for both vehicles and personnel were thorough and in accordance with the plans. This demonstration occurred simultaneously with several actual emergencies within the County, which resulted in numerous personnel changes in the decontamination team. In spite of these challenges, the demonstration was excellent, reflecting the depth of training and the personal commitment to the program.

- a. **MET: Objectives 5 and 22**
- b. **DEFICIENCY: NONE**

- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.2.4 Traffic Control Points

Officers from the Martin County Sheriff's Office and the Sewall's Point Police Department were interviewed outside the Martin County Fire Rescue Station #14 on February 14, 2000. All three officers had dosimetry packages that included TLDs, 0-20R and 0-500mR self-reading dosimeters, instructions for use and a card to record dosimeter readings. The officers were knowledgeable of how the dosimetry equipment works, intervals to read their dosimeters, call-in and turn-back values, and the appropriate actions to take when those values were reached. While all officers were knowledgeable of dosimetry and traffic control duties, the officer from Sewall's Point Police Department had an unusually thorough knowledge of the radiological aspects of his duties.

- a. **MET: Objectives 5 and 17**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

3. SUPPORT JURISDICTIONS

3.1 INDIAN RIVER COUNTY

3.1.1 Emergency Operations Center

Key staff efficiently used the exercise period to not only support the St. Lucie exercise in their host county capacity, but additionally conducted a table-top review with key staff members of the County Emergency Operations Plan and integrated the 1999 Hurricane season and Y2K lessons learned into the plan. The RACES staff tested two systems during the event (Packet Radio and Amateur Position Radio System). Their support and enthusiasm for their duties within the county were notable. Emergency notification was enhanced by the government access channel available to the Director. Continued use of the

system has been noted to reduce the sometimes overwhelming 911 system inquiries. This should be noted as an exceptional practice and the County is commended for its use. All of the participants are commended for doing an outstanding job.

TABLE-TOP: Objectives 1, 2, 3, 4, 10, 11, 12, 13 and 15

3.2 BREVARD COUNTY

3.2.1 Emergency Operations Center

Brevard County, even though outside the 50-mile EPZ, used this exercise timeframe as a training session for the EOC staff and did not participate in the actual exercise scenario. The training session was organized into several segments which included: an orientation by the Emergency Management Director (EMD), a presentation by FP&L, an overview of the county radiological plan and a table-top discussion.

TABLE-TOP: Objectives 1, 2, 3, 4, 10, 11, 12, 13 and 15

3.3 PALM BEACH COUNTY

3.3.1 Reception Center/Congregate Care

The decontamination of vehicles and personnel was accomplished at Carlin Park, on State Route A1A, south of Indiantown Road. It is apparent the County has invested time and due diligence in preparing and practicing for this excellent demonstration. The County is to be commended on its investment in the process. There were sufficient personnel and plans for continuous staffing at the site. All staff were knowledgeable of their function and enthusiastic in the performance of their individual activities. There was excellent overall coordination at the site. The flow pattern addressed concerns about potential runoff and cross-contamination of designated clean areas. The preparation and commitment of the entire demonstration team was apparent. Even though not included in the EOP, the Palm Beach County Sheriff's Deputies were interviewed for traffic control and dosimetry requirements. The Deputies were very knowledgeable of their duties and equipment.

- a. **MET:** Objectives 5, 17, 18 and 19
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE
- f. **PRIOR ARCAs - UNRESOLVED:** NONE

4. SUMMARY OF DEFICIENCIES/ARCAs

4.1 ARCAs Assessed 2000

4.1.1 55-00-08-A-01 Field Teams

Description: Procedures in the SOPs were closely followed. The air sampler was set up and the team collected 13 cubic feet of air. During the air sample collection, only one open and closed measurement was taken. Open and closed measurements with the survey meter should be taken at the beginning, near the middle, and at the completion of taking each air sample (NUREG I.9). The Figure 6-1; FOS Measurement Form (page 14, SOP 6) in the Bureau of Radiation Control, Department of Health, State of Florida, Standard Operating Procedure 1, illustrates three Beta/Gamma Field Measurements spaces to be completed by the FMT, however the SOP does not specify that the team is to make these measurements and at what time.

Recommendation: Revise the SOP to include the gamma exposure measurements to be made at the beginning, near the middle and at the completion of taking each air sample and provide appropriate training to field teams.

Schedule of Corrective Action: The appropriate section of the SOP was corrected and given to the Chief Evaluator the day after the exercise. It was agreed that this procedure will be re-demonstrated at the October 2000, Crystal River Exercise.

4.2 Prior ARCAs - Resolved

4.2.1 55-98-A-25-01 MERL

Description: MERL staff did not carry out some contamination control steps called for in their Standard Operating Procedures (SOP). According to SOP-8, the following steps are to be taken in handling samples:

“The Field Operations Specialists will survey the sample at the hot line for external radiation field levels. The instrument used with its serial number and the background and radiation level for both a contact and a one foot measurement in units of

micro-R/hr or mR/hr will be entered on the tag in the appropriate area....”

“The Field Team Coordinator will take a swipe of the outside of the clean bag. The swipe will be measured with a GM frisker. The instrument used with its serial number and the background level and measurement in units of CPM will be recorded on the clean tag in the appropriate area.”

Staff members did not carry out these steps at any time during the exercise. Also, SOP 9, for operations within the MERL, calls for the following step to be taken:

“The Ludlum 177 frisking station must be set up near the front of the MERL. The background levels must be monitored and should remain less than 100 cpm.”

This step was not taken.

Corrective Action Demonstrated: The Bureau of Radiation Control re-demonstrated the MERL operations during the October 1998 Crystal River Exercise. MERL staff carried out all contamination control steps called for in the SOP, including surveying the samples at the hotline, taking swipes of the outsides of clean sample bags and setting up a survey instrument near the front of the MERL to ensure a clean environment for counting. In short, the MERL staff fully complied with their well written procedures.

APPENDIX 1

ACRONYMS AND ABBREVIATIONS

The following is a list of the acronyms and abbreviations, which may have been used in this report.

ACP	Access Control Point
AMA	American Medical Association
ANI	American Nuclear Insurers
ANL	Argonne National Laboratories
ANS	Alert and Notification System
ARC	American Red Cross
ARCA	Area Requiring Corrective Action
ARES	Amateur Radio Emergency Services
BRC	Bureau of Radiation Control
CCC	Congregate Care Center
CD-V	Civil Defense - Victoreen
CFR	Code of Federal Regulations
CPM	Counts Per Minute
DEM	Division of Emergency Management
DHHS	Department of Health and Human Services
DOC	Department of Commerce
DOE	Department of Energy
DOH	Department of Health (State)
DOI	Department of the Interior
DOT	Department of Transportation
DRD	Direct Reading Dosimeter
EAL	Emergency Action Level
EAS	Emergency Alert System
ECL	Emergency Classification Level
EEM	Exercise Evaluation Methodology
EMA	Emergency Management Agency
EMD	Emergency Management Director
EMS	Emergency Medical Services
ENC	Emergency News Center
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPA	Environmental Protection Agency
EPZ	Emergency Planning Zone
ESF	Emergency Support Function

ETA	Estimated Time of Arrival
ETE	Evacuation Time Estimate
EW	Emergency Worker
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FMT	Field Monitoring Team
FOS	Field Operation Support
FP&L	Florida Power and Light Corporation
FR	Federal Register
F-SERT	Forward Deployed - State Emergency Response Team
FTC	Field Team Coordinator
ft/min	feet per minute
ft ³ /min	cubic feet per minute
GE	General Emergency
GM	Guidance Memorandum
IP	Implementing Procedure
KI	Potassium Iodide
MERL	Mobile Emergency Radiological Laboratory
mr	milliroentgen
mr/h	milliroentgen per hour
NOAA	National Oceanic and Atmospheric Administration
NOUE	Notification of Unusual Event
NRC	U.S. Nuclear Regulatory Commission
NUREG-0654	NUREG-0654/FEMA-REP-1, Rev. 1, <i>"Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, November 1980"</i>
ORO	Offsite Response Organization
PAD	Protective Action Decision
PAG	Protective Action Guide
PAO	Public Affairs Official
PAR	Protective Action Recommendation
PIO	Public Information Officer
R	Roentgen
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Service

REA	Radioactive Emergency Area
RC	Relocation Center
REM	Roentgen Equivalent Man
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
R/h	Roentgen(s) per hour
RO	Radiological Officer
SAE	Site Area Emergency
SEOC	State Emergency Operations Center
SERT	State Emergency Response Team
SOE	State of Emergency
SOP	Standard or Standing Operational Procedures
TAT	Traffic Assistance Team
TCP	Traffic Control Point
TDD	Telecommunications Device for the Deaf
TLD	Thermoluminescent Dosimeter
UHF	Ultra High Frequency
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
VHF	Very High Frequency
Y2K	Year 2000

APPENDIX 2

EXERCISE EVALUATORS

Following is a list of personnel who evaluated the St. Lucie Nuclear Power Plant exercise on February 16, 2000. The organization represented is indicated below.

- ANL - Argonne National Laboratory
- DOT - Department of Transportation
- FDA - Food and Drug Administration
- FEMA - Federal Emergency Management Agency
- NRC - Nuclear Regulatory Commission

Regional Assistance Committee Chair	Lawrence Robertson	FEMA
<u>LOCATION</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
STATE		
State Emergency Response Team (SERT) Emergency Operations Facility (EOF)	Tom Reynolds	FEMA
Dose Assessment Emergency Operations Facility (Utility)	Robert Trojanowski	NRC
Emergency News Center	Robert Perdue Conrad Burnside	FEMA FEMA
Mobile Laboratory (MERL)	Bernie Hannah	ANL
Radiological Field Monitoring Teams	Harry Harrison George Goforth	ANL ANL
St. Lucie County		
Emergency Operations Center	Joseph Canoles Harold Dorminey	FEMA DOT
Hutchinson Island Parks	Sandra Bailey	ANL
Protective Actions for Schools	Wayne Waddell	ANL
Emergency Worker Decontamination	Tom Reynolds Joseph Canoles	FEMA FEMA

<u>LOCATION</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
Traffic Control Points	Tom Reynolds Joseph Canoles	FEMA FEMA
Martin County		
Emergency Operations Center	Don Cornell	FEMA
Protective Actions for Schools	Al Hall	ANL
E W Decontamination	Tom Reynolds Joseph Canoles	FEMA FEMA
Traffic Control Points	Tom Reynolds Joseph Canoles	FEMA FEMA
Indian River County		
Emergency Operations Center	Eddie Hickman	FEMA
Brevard County		
Emergency Operations Center	Dave Moffet Tom Trout	FEMA FDA
Palm Beach County		
Reception/Congregate Care	Tom Reynolds Conrad Burnside	FEMA FEMA
Federal Observers	Helen Wilgus (EOF) Pam Griffin (EOF) (St. Liaison) Kelvin Kelkenberg William McSwain	FEMA FEMA FEMA FEMA

APPENDIX 3

EXERCISE OBJECTIVES AND EXTENT-OF-PLAY AGREEMENT

This appendix lists exercise objectives, which were scheduled for demonstration in the St. Lucie Nuclear Power Plant exercise on February 16, 2000, and the extent-of-play, which was approved by FEMA Region IV.

A. Exercise Objectives

Attached are the specific radiological emergency preparedness objectives scheduled for demonstration during this exercise.

B. Extent-of-Play Agreement

The extent-of-play agreement on the following pages was submitted by the State of Florida, and was approved by FEMA Region IV.

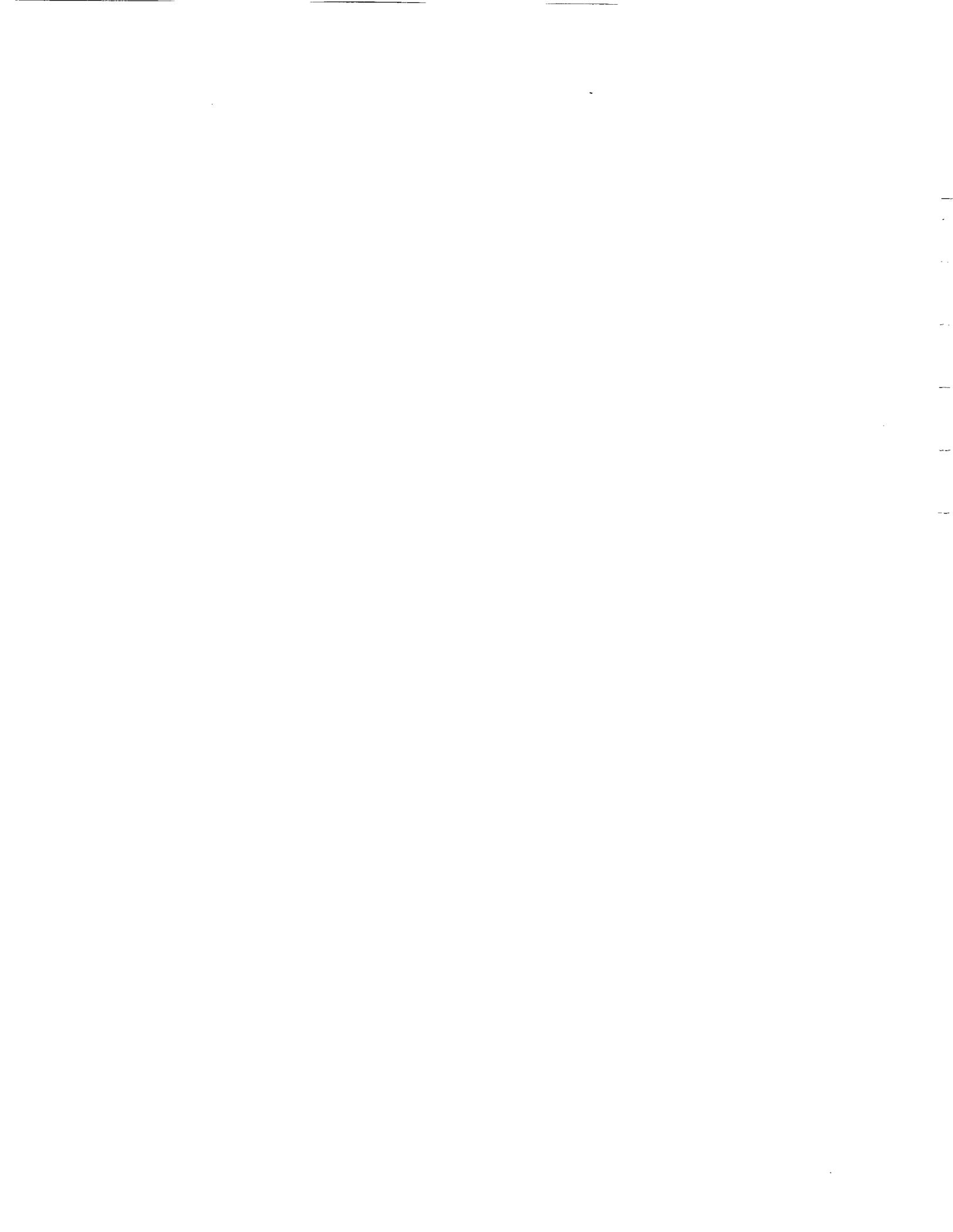


OBJECTIVES TO BE DEMONSTRATED	F-SERT	DOSE/EOF	MERL	FIELD TRAMS	JIC	ST. LUCIE EOC	MARKEN EOC	LANDHAM REVER EOC	DELMOND EOC	PA LIT OPERA
1. Mobilization of emergency personnel (All Prepositioned)	X	X	X	X	X	X	X	II	II	
2. Adequacy of facilities and displays	X	X			X	X	X	II	II	
3. Direction and control of emergency	X	X				X	X	II	II	
4. Communicate with all appropriate locations	X	X	X	X	X	X	X	II	II	
5. Control emergency worker exposure			X	X		X	X			X
6. Demonstrate equipment and procedures to measure radiation in the field				X						
7. Dose projection		X								
8. Measurement of radioiodine and particulates										
9. Plume protective action decision making	X	X				X	X			
10. Alert and notification						X	X	II	II	
11. Public instructions and emergency information					X	X	X	II	II	
12. Emergency information - media					X			II		
13. Emergency information - rumor control					X	X	X	II	II	
14. Use of KI	X	X								
15. Implementation of protective actions special populations						I	I	II	II	
16. Protective actions for schools						X	X			
17. Traffic and access control						I	X			
18. Reception center - monitoring, decontamination and registration										X
19. Congregate care										X
20. Medical services - transportation										
21. Medical services - facilities										
22. Emergency worker decontamination						X	X			
23. Other assistance	X					X	X			
24. Post-emergency sampling										
25. Laboratory operations			X							
26. Project dosage via ingestion pathway										
27. Implementation of ingestion protective actions										
28. Relocation, re-entry, and return - decision making	X	X				X	X			
29. Relocation, re-entry, and return - implementation										
30. Continuous, 24-hour staffing										
31. Offsite support for the evacuation of onsite personnel										
32. Unannounced exercise or drill										
33. Off-hours exercise or drill										

X = Demonstrate

I = Interview

II = Table Top Discussion



**ST. LUCIE NUCLEAR POWER PLANT
PARTIAL PARTICIPATION EXERCISE**

February 16, 2000

(Revised 11/8/99)

EXTENT OF PLAY:

1. Mobilization of Emergency Personnel

Demonstrate the ability to fully alert and mobilize personnel for both emergency facilities and field operations.

STATE

Division of Emergency Management

The State Emergency Response Team (Forward SERT) and PIO staff will be prepositioned at the St. Lucie Nuclear Power Plant Emergency Operations Facility (EOF), in Ft. Pierce, Florida. The State Emergency Operations Center (SEOC) in Tallahassee will be staffed, primarily for county and Emergency Operations Facility coordination.

Department of Health, Bureau of Radiation Control

The Bureau of Radiation Control will preposition the field teams and the MERL. EOF personnel will arrive within one hour after the Alert emergency Classification

COUNTY

St. Lucie

St. Lucie County Emergency Operations Center (EOC) will be operational with full staffing. Due to the compressed time frame of the exercise, staff will be prepositioned in the EOC. Staffing capability will be demonstrated by interview with the Emergency Management Coordinator, and review of the call out standard operating procedure. Personnel assigned to the Emergency Operations Center will react to the scenario.

Field operations will be held out of sequence on February 16, 2000.

Martin

Staff will be prepositioned in the Martin County EOC and EOF at the time of activation, and will respond in sequence with the scenario. FEMA can review the process by checking procedures and current phone lists.

Indian River

Indian River County will demonstrate full staffing of the EOC and will be prepositioned. Indian River County will demonstrate "call in" procedures using the computer call down system.

Brevard

Brevard County will demonstrate staffing of the Emergency Operations Center. Brevard County will demonstrate "Call-in" procedures.

2. Facilities – Equipment and Displays

Demonstrate the adequacy of facilities and their equipment, displays and other materials to support emergency operations. Demonstrate the ability to activate and staff emergency facilities for emergency operations.

STATE

Division of Emergency Management

The EOC in Tallahassee will be operational at Level II. Notification for Direction and Control will follow the Comprehensive Emergency Management Plan.

COUNTY

St. Lucie

Emergency Operations Center will be activated to support this objective.

Martin

Emergency Operations center will be activated to support this objective.

Indian River

Indian River County will activate the Emergency Operations Center, which will adequately demonstrate this objective.

Brevard

Brevard County will demonstrate this objective.

3. Direction and Control

Demonstrate the ability to direct and control emergency operations.

STATE

Division of Emergency Management

The State EOC in Tallahassee will assume Direction and Control prior to arrival of state staff at the EOF in Ft. Pierce. FSERT will be prepositioned; assume Direction and Control from the Area Coordinator during the sequence between Alert and Site Area Emergency.

Department of Health, Bureau of Radiation Control

The Bureau will demonstrate the capability to deploy and direct field teams.

COUNTY

St. Lucie

St. Lucie County will assume direction and control relative to county activities.

Martin

Martin County will assume direction and control relative to county activities.

Indian River

Indian River County will demonstrate this objective through interview.

Brevard

Brevard County will demonstrate this objective through interview.

4. Communications

Demonstrate the ability to communicate with all appropriate organizations and field personnel.

STATE

Division of Emergency Management

The State will demonstrate transfer of net control and Direction and Control from the SERT to the FSERT in the EOF. The SERT will demonstrate primary and alternative communications systems.

Department of Health, Bureau of Radiation Control

The Bureau of Radiation Control will communicate with the MERL, risk counties, field teams, and the EOF.

COUNTY

St. Lucie

St. Lucie County will demonstrate primary links and backup systems. RACES will establish and test their links with local groups. Links with State, Risk and Host Counties yet to be determined.

Martin

This objective will be demonstrated as driven by the scenario.

Indian River

Indian River County will demonstrate communications within the Emergency Operations Center.

Brevard

Brevard County will demonstrate communications within the Emergency Operations Center.

5. Emergency Worker Exposure Control

Demonstrate the ability to continuously monitor and control radiation exposure to emergency personnel.

STATE

Department of Health, Bureau of Radiation Control

The Bureau will demonstrate the capability to protect workers from unnecessary radiation exposure per current standard operating procedures. Appropriate dosimetry will be issued and personnel will demonstrate its correct use. Personnel will demonstrate knowledge of turn-around dose values.

COUNTY

St. Lucie

This objective will be demonstrated in sequence, in accordance with the St. Lucie County Sheriff's Office standard operating procedures. Upon deployment of Officers to selected traffic control points (simulated), two law enforcement officers will respond to the Emergency Operations Center for interview by evaluators. Law enforcement representatives and the Radiological Officer will be available for interview in the EOC during the exercise.

Martin

Out of sequence at the Washdown and Decontamination site at Fire Station 14 on Hutchinson Island. In conjunction with Objective 22, Section 3.4.3 will be carried out at the EOC if driven by the scenario.

Palm Beach

Palm Beach County will demonstrate this objective out-of-sequence with the exercise.

Indian River

N/A

6. Field Radiation Monitoring – Ambient Radiation Monitoring

Demonstrate the appropriate use of equipment and procedures for determining field radiation measurements.

STATE

Department of Health, Bureau of Radiation Control

Two field-monitoring teams will use standard operating procedures to locate the plume edges and track the plume movement. Air sample filters iodine cartridges and contamination smears will be taken to the MERL by a third team.

7. Plume Dose Projection

Demonstrate the ability to project dosage to the public via the plume exposure pathway, based on plant status and field data.

STATE

Department of Health, Bureau of Radiation Control

As per SOPs, the Bureau will use the RASCAL dose projection code to predict thyroid and TEDE doses in the plume.

8. Field Monitoring, Airborne Radioiodine and Particulate Activity Monitoring

Demonstrate the appropriate use of equipment and procedures for determining field radiation measurements.

STATE

Department of Health, Bureau of Radiation Control

The Bureau field teams will demonstrate this capability using methods in its standard operating procedures

9. Plume Protective Action Decision Making

Determine the ability to make timely and appropriate protective action decisions.

STATE

Department of Health, Bureau of Radiation Control

The Bureau will demonstrate the ability to make protective action decisions in concert with other EOF players.

COUNTY

St. Lucie

St. Lucie County will demonstrate the ability to make protective action decisions with Martin County and State agencies. Prior to finalization of this decision, St. Lucie County staff in the Emergency Operations Facility will coordinate with their Emergency Operations Center staff.

Martin

Martin County will demonstrate the ability to make protective action decisions with St. Lucie County and State agencies. Prior to finalization of this decision, Martin County staff in the Emergency Operations Facility will coordinate with their Emergency Operations Center staff.

10. Alert and Notification

Demonstrate the ability to alert and notify the public within the 10-mile EPZ and begin dissemination of instructional messages within 15 minutes of each decision by appropriate state or local officials.

STATE

Siren Test - 3 to 5 minutes

N/A

COUNTY

St. Lucie

When the final decision to implement protective action is made, St. Lucie County will sound sirens, issue appropriate EAS messages within the fifteen-minute time frame. Sirens are routinely tested quarterly. The siren system will be activated once, based on the scenario. Any additional activation will be simulated in sequence with the exercise. A test message will be released to the Master EAS station WQCS FM 88.9 and Melbourne Weather Office via fax. The EAS station will do their weekly test message in conjunction with the test message received from the EOC. St. Lucie County EOC will generate the actual EAS message appropriate to the scenario and protective action decisions involved for evaluator review and player use.

Martin

Martin County will demonstrate siren-sounding procedures in sequence with the exercise. Siren activation will be coordinated with St. Lucie County.

Indian River

Although Indian River County is not within the 10-mile EPZ, Emergency Operations Center personnel will demonstrate alert and notification to Indian River County residents.

Brevard

Although Brevard County is outside the 10-mile EPZ, Brevard County will demonstrate the alert and notification to the residents of Brevard County.

11. Public Instructions and Emergency Information

Demonstrate the ability to coordinate the formulation and dissemination of accurate information and instructions to the public.

STATE

Division of Emergency Management

The ENC State staff will provide coordinated state information on protective action decisions and public instructions.

COUNTY

St. Lucie

St. Lucie County will issue an EAS message in English, appropriate to the scenario and protective action decisions. This message will be used for evaluator review and player use in the EOC. St. Lucie County will issue a test EAS message in English to the Master EAS station and the Melbourne Weather Office via fax.

Martin

Contact will be made with a single local commercial broadcaster in the area to validate their ability to convey the correct information to the public within the time frame driven by the scenario.

Indian River

This will be demonstrated during "Alert & Notification" activities.

Brevard

This will be demonstrated during Alert and Notification activities.

12. Emergency Information – Media

Demonstrate the ability to coordinate the development and dissemination of clear, accurate and timely information to the news media.

STATE

Division of Emergency Management

Joint press conferences will be held at the Emergency News Center (ENC), located at the EOF in Ft. Pierce. Florida Power and Light will act as the facilitator for the news briefings. State PIO staff will be present in the ENC and will participate in the issuing of joint press releases from that site.

COUNTY

St. Lucie/Martin

Joint press conferences will be held at the Emergency News Center (ENC), located at the EOF in Ft. Pierce. St. Lucie and Martin County PIO staff will be present in the ENC and will participate in the press conferences and the issuing of joint press releases with other representatives from the ENC.

Indian River

Indian River County will demonstrate the development of press conference information and dissemination of clear, accurate and timely information to the news media.

13. Emergency Information – Rumor Control

Demonstrate the ability to establish and operate rumor control in a coordinated and timely fashion.

STATE

Division of Emergency Management

The State Rumor Control line number is reserved and will be make operational only if a press release is issued identifying that number to the public.

COUNTY

St. Lucie

St. Lucie County Rumor Control will answer local rumor control lines at the Emergency Operations Center. Rumor control will demonstrate the ability to squelch rumors through the Public Information staff at the Emergency Operations Center. Two operators will be utilized. Twelve (12) phone calls per hour will be generated by Florida Power and Light Company to meet FEMA rumor control guidelines for one hour at the onset of the ~~General~~ declaration.

Site Area

Martin

Site Area Declaration

Martin County will generate rumor control calls at a rate of 6 per hour for one hour beginning at ~~about 11:00~~ ~~hours~~ to each of two Rumor Control Operators. The topic and a block diagram of the rumor control contacts will be provided to the lead evaluator for the Martin County EOC during the pre-exercise briefing.

Indian River

Indian River County will demonstrate rumor control facility and operation of rumor control phones.

Brevard

Brevard County will demonstrate citizen's information.

14. Implementation of Protective Actions – Use of KI for Emergency Workers, Institutionalized Persons and the General Public

Demonstrate the ability and resources to implement KI protective actions for emergency workers, institutionalized persons and the general public.

STATE

Department of Health, Bureau of Radiation Control

The Bureau will demonstrate the use of placebos as potassium iodide to its emergency workers.

St. Lucie

This requirement will be demonstrated through interview with EOC representatives and emergency workers. Placebos will be issued as part of the dosimetry packages as per SOP to personnel working traffic control points, wash down and special needs transporters.

Martin

As driven by the scenario, and by interview in conjunction with Objective 22. Martin County has no institution inside the 10-mile EPZ that will be evacuated.

15. Implementation of Protective Actions – Special Populations

Demonstrate the ability and resources necessary to implement appropriate protective actions for special populations.

COUNTY

St. Lucie

Current lists of special needs population will be provided to the FEMA evaluator for review. Evacuation and relocation requirements will be demonstrated through discussions at the EOC, based on the scenario and county implementing procedures.

Martin

Discussion and interview of EOC staff, and review of the Special Needs roster as driven by the scenario.

Indian River

Indian River County will demonstrate the ability and resources for relocating and sheltering the special needs through interview.

Brevard

Brevard County will demonstrate the ability and resources for relocation and sheltering the special needs population through interview.

16. Implementation of Protective Actions – Schools

Demonstrate the ability and resources necessary to implement protective actions for school children within the plume EPZ.

COUNTY

St. Lucie

The St. Lucie County School Transportation Director and the Chief of Security, or their designees, will be available for interview in the EOC during the exercise.

St. Lucie County and the St. Lucie County School Board, will demonstrate the ability to implement protective actions for six (6) schools through interview with the principal or assistant and review the faculty plan.

The evaluator will meet escort at the St. Lucie County EOC at 8:00 a.m. on February 16, 2000. The following sites will be visited: C. A. Moore Elementary; Ft. Pierce School of the Arts; St. Andrews School; Savannah Ridge Elementary; St. Lucie West Middle; St. Lucie West Centennial High.

Martin

By interview of decision-makers, and School Board personnel at the EOC. Interview and review of plans at schools.

17. Traffic and Access Control

Demonstrate the organizational ability and resources necessary to control evacuation traffic flow and to control access to evacuated and sheltered areas.

COUNTY

St. Lucie

This requirement will be demonstrated through interview with EOC representatives and review of their standard operating procedures. *By Interview*

Martin

Out-of-sequence discussion and demonstration by local law enforcement along an agreed upon position of the evacuation routes. Specific site identified on maps for the evaluators will be delivered at the pre-exercise briefing. *AT EW Deon*

18. Reception Center – Monitoring, Decontamination, and Registration

Demonstrate the adequacy of procedures, facilities, equipment, and personnel for the radiological monitoring, decontamination, and registration of evacuees.

Palm Beach

Palm Beach County will demonstrate this objective focusing on activities associated with the monitoring, registering, and decontamination of evacuees and their vehicles

19. Congregate Care

Demonstrate the adequacy of facilities, equipment, supplies, personnel, and procedures for congregate care of evacuees.

Palm Beach

Palm Beach County will demonstrate this objective.

22. Decontamination – Emergency Workers, Equipment, Vehicles, Materials and Waste Disposal

Demonstrate the adequacy of procedures for decontamination of emergency workers, equipment, vehicles, materials and the disposal of contaminated waste.

STATE

Department of Health, Bureau of Radiation Control

Field team members, equipment and samples will be monitored and decontaminated as per procedures at the mobile lab location. Hot line area demonstration not for evaluation.

COUNTY

St. Lucie

St. Lucie County will demonstrate this objective. It will be conducted out-of-sequence and will not be scenario driven. This activity will be demonstrated at the St. Lucie County Sports Complex on February 15, 2000 beginning at 3:00 p.m. Four (4) vehicles will be decontaminated and two (2) emergency workers will be monitored.

Martin

Out-of-sequence at Fire Station 14 on Hutchinson Island. - 0930 Feb. 15, 2000

23. Supplemental Assistance. (Federal/Other)

STATE

Department of Health, Bureau of Radiation Control

The Bureau of Radiation Control will simulate requesting federal and state assistance.

COUNTY

St. Lucie

St. Lucie County will request assistance according to the scenario.

Martin

Martin County will transmit requests for assistance to the appropriate agencies as driven by the scenario.

24. Laboratory Operations

Demonstrate laboratory operations and procedures for measuring and analyzing samples.

STATE

Department of Health, Bureau of Radiation Control

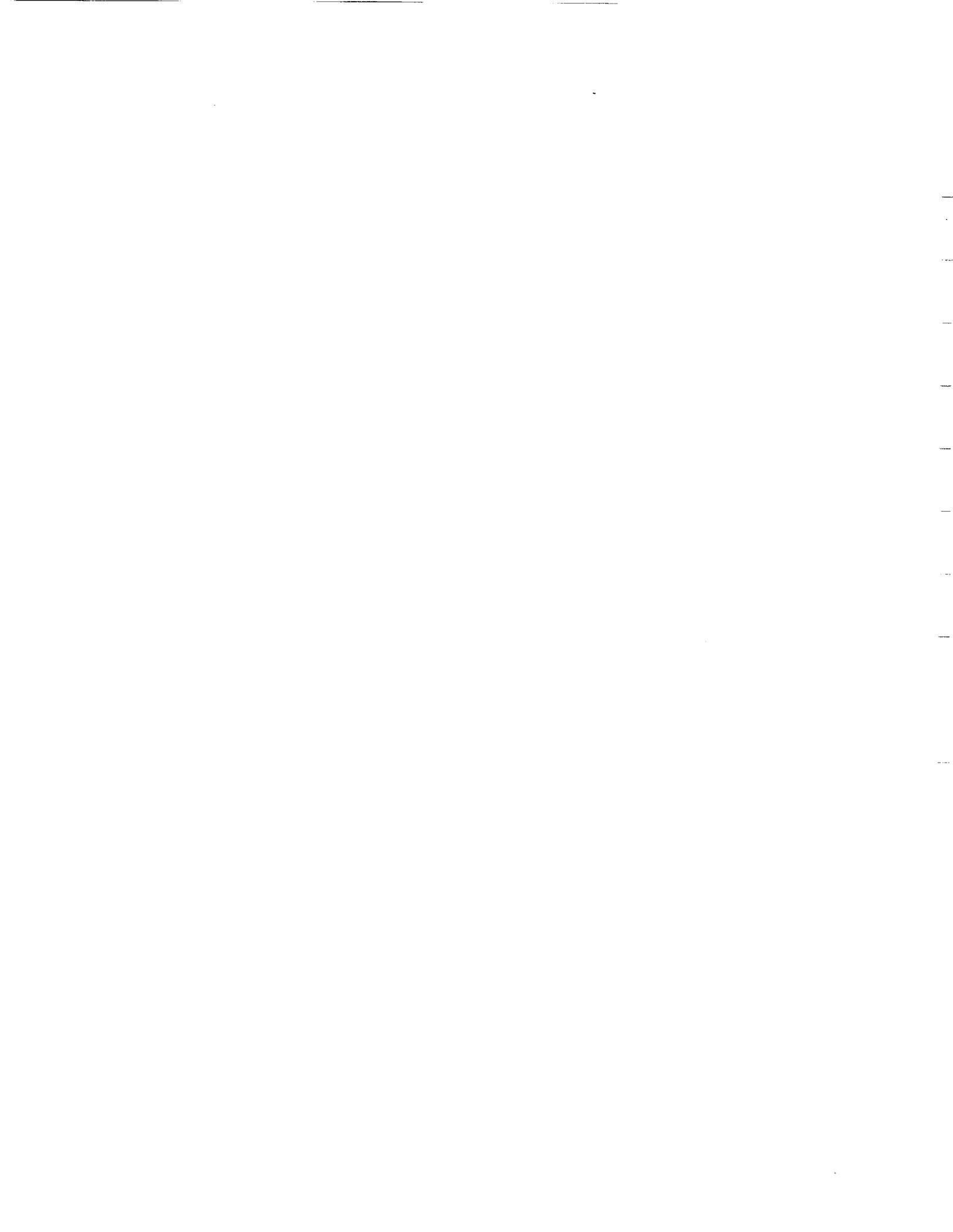
The Bureau will prepare and analyze simulated air and particulate samples. These samples will be prepared and analyzed prior to field samples arrival. Results will be given to the operations officer at the appropriate time in the exercise.

28. Relocation, Re-entry, and Return – Decision Making

Demonstrate the capability to develop decisions on relocation re-entry and return.

STATE AND COUNTY

These decisions will be made through conferences with state and county personnel in the EOF and appropriate EOC's.



APPENDIX 4

EXERCISE SCENARIO

This appendix contains the exercise scenario, attached, which was submitted by the State of Florida and approved by FEMA Region IV.



**FLORIDA POWER AND LIGHT COMPANY
ST. LUCIE PLANT
2000 EMERGENCY PREPAREDNESS EVALUATED EXERCISE
FEBRUARY 16, 2000**

3.1 NARRATIVE SUMMARY

Unit 2, which is operating at 100% power, has a Health Physics (HP) team performing a containment entry. When the team is notified to leave containment due to the initiation of a Reactor Coolant System (RCS) leak, the utility worker, in his haste, trips and falls in the airlock. The Health Physics Technologist (HPT) assists the utility worker out of containment and secures the personnel hatch. The contaminated injured utility worker is transported to the Site Medical Facility.

The Operators have commenced a downpower when the RCS leakage increases to greater than 10 gallons per minute (gpm) and an (Notification of) Unusual Event is declared. The RCS leakage continues to increase to greater than 50 gpm and an Alert is declared. Operators increase the rate of the downpower.

When the Operators trip the Unit, or shortly thereafter, a large break occurs in the "2A1" Cold Leg. As the Loss of Coolant Accident (LOCA) is initiated, the 2B3 4.16 KV bus experiences a differential current fault which disables all B side safety systems. A Site Area Emergency is declared at this time.

The Control Room (Simulator) receives an unexplained Recirculation Actuation Signal (RAS) which results in the isolation of the Refueling Water Tank (RWT), the RWT Suction Valve fails to reopen. Both trains of the Emergency Core Cooling System (ECCS) are lost and cause the declaration of a General Emergency.

ECCS will be reestablished but not until after Core Exit Thermocouple (CET) temperatures exceed 700 degrees Fahrenheit and a core melt sequence is initiated. The radiological release, monitored by the plant vent, requires a recommended protective action of evacuation out to five miles downwind of the release.

Changing weather conditions and improved plant conditions prompt discussions of recovery and re-entry.

**FLORIDA POWER AND LIGHT COMPANY
ST. LUCIE PLANT
2000 EMERGENCY PREPAREDNESS EVALUATED EXERCISE
FEBRUARY 16, 2000**

3.2 SCENARIO TIMELINE

TIME (all times approximate)		EVENT
Scenario	Clock	
00/00	0700	Shift Turnover - Initial Conditions.
00/30	0730	Reactor Coolant System (RCS) leakage indicates to greater than 13 gallon per minute (gpm). Nuclear Plant Supervisor (NPS) should declare an (Notification of) UNUSUAL EVENT due to <u>RCS leakage GREATER THAN 10 gpm.</u>
00/45	0745	Operators initiate a downpower.
01/00	0800	A Medical Emergency is reported to the Unit 2 Control Room (Simulator). <i>Contingency Message for the Unusual Event</i>
01/05	0805	The First Aid/Personnel Decontamination Team is activated to respond to the injured person.
01/50	0850	The contaminated injured person leaves the Radiation Controlled Area (RCA).
02/15	0915	RCS leakage increases to 65 gpm. The Emergency Coordinator (EC) should declare an ALERT due to <u>RCS leakage GREATER THAN 50 gpm.</u> Operators increase the rate of the downpower.
02/30	0930	<i>Contingency Message for the Alert</i> (Depending on rate of downpower, Operators take Unit off-line.)

**FLORIDA POWER AND LIGHT COMPANY
ST. LUCIE PLANT
2000 EMERGENCY PREPAREDNESS EVALUATED EXERCISE
FEBRUARY 16, 2000**

3.2 SCENARIO TIMELINE

TIME (all times approximate)		EVENT
Scenario	Clock	
03/15	1015	A large break occurs on the 2A1 Cold Leg resulting in a Loss of Coolant Accident (LOCA).
03/30	1030	The 2B3 4160 volt Bus is lost due to a differential current fault. The EC should declare a SITE AREA EMERGENCY due to <u>LOCA GREATER THAN capacity of charging pumps</u> . Operators trip the Unit, if the Unit is not already off-line.
03/45	1045	<i>Contingency Message for Site Area Emergency</i>
04/00	1100	On the unexplained A side Recirculation Actuation Signal (RAS), the Refueling Water Tank (RWT) Suction Valve fails closed, but the Containment Sump Suction Valve fails to reopen. All Emergency Core Cooling System (ECCS) capability is lost. The EC should declare a GENERAL EMERGENCY due to <u>Emergency Coordinator's judgement that plant conditions exist that make release of large amounts of radioactivity in a short period appear possible or likely.</u> (Any core melt situation)
04/15	1115	<i>Contingency Message for General Emergency</i>
04/30	1130	Core Exit Thermocouple (CET) temperatures exceed 700 degrees Fahrenheit. A release of radiation is initiated.
05/05	1205	ECCS is restored and radiation levels start to diminish. Recovery and re-entry discussions initiated.
07/00	1400	Exercise is terminated.

**FLORIDA POWER AND LIGHT COMPANY
ST. LUCIE PLANT
2000 EMERGENCY PREPAREDNESS EVALUATED EXERCISE
FEBRUARY 16, 2000**

3.3 SEQUENCE OF EVENTS TIMELINE

TIME:	0700
EMERGENCY CLASSIFICATION:	NONE

SCENARIO EVENT:

Initial Conditions:

Unit 1: 100% Power

Unit 2: 100% Power, On-line 270 Days

Out of Service:

1. 2A Containment Spray Pump
2. C Safety Channel Refueling Water Tank (RWT) level transmitter in trip per Technical Specifications

Other:

1. 2B1 Reactor Coolant Pump (RCP) - lower seal failure
2. Health Physics has entered into the Unit 2 Containment to remove dosimetry from a neutron phantom on the 62 ft. elevation

System Status: Normal
Moderate demand, 11,000 MWe

Weather: Sunny
80°F
Wind from 59° at 4.0 mph

ANTICIPATED ACTION:

Unit 2 Control Room (Simulator) staff receives shift turnover and initial conditions.

Initial conditions are made available to plant management at the morning meeting.

Initial conditions are provided to the Duty Call Supervisor.

3.3 SEQUENCE OF EVENTS TIMELINE (continued)

TIME:	0730
EMERGENCY CLASSIFICATION:	NONE
SCENARIO EVENT:	

Control Room (Simulator) operators observe indications of Reactor Coolant System (RCS) leakage inside containment. The leakage is in excess of that allowed by Technical Specifications. The actual leak rate is approximately 13 gallons per minute (gpm).

ANTICIPATED ACTION:

The Nuclear Plant Supervisor (NPS) declares an (Notification of) UNUSUAL EVENT in accordance with EPIP-01, "Classification of Emergencies," and becomes the Emergency Coordinator (EC).

Event/Class	Unusual Event
1.A. <u>Abnormal Primary Leak Rate</u>	<u>Reactor Coolant System (RCS) Leakage</u> 1. RCS leakage GREATER THAN 10 gpm as indicated by: A. Control Room observation <u>OR</u> B. Inventory balance calculation <u>OR</u> C. Field observation <u>OR</u> D. Emergency Coordinator judgement

The NPS implements the Unusual Event Checklist in EPIP-02, "Duties and Responsibilities of the Emergency Coordinator":

- Notify the State of Florida and St. Lucie and Martin Counties via the State Warning Point (SWP) Hot Ringdown Phone (HRD).
- Notify the Nuclear Regulatory Commission (NRC) via the Emergency Notification System (ENS).
- Notify the Plant General Manager, Plant Management, and Security.
- Notify the Nuclear Division Duty Officer (NDDO).

The Assistant Nuclear Plant Supervisor (ANPS):

- Sounds the Containment Evacuation Alarm.
- Commences a Unit downpower at an estimated rate of 5-10 MWe/minute.

3.3 SEQUENCE OF EVENTS TIMELINE (continued)

TIME:	0800
EMERGENCY CLASSIFICATION:	UNUSUAL EVENT

SCENARIO EVENT:

Two personnel are working in the Unit 2 containment when the containment evacuation alarm is sounded due to indications in the Control Room of Reactor Coolant System (RCS) leakage. In their haste to exit the airlock, one of the workers trips and falls striking his head and arm. The Health Physics Technologist (HPT) assists the injured worker out of containment and secures the personnel hatch.

ANTICIPATED ACTION:

The HPT notifies the Unit 2 Control Room (Simulator) of the medical emergency.

The NPS implements EPIP-00, "Discovery and Identification of a Emergency Condition (including Chemical, Fire and Natural Emergencies)".

The Control Room should request:

1. Name of victim
2. Employer
3. Nature and extent of injury
4. Location
5. Is victim contaminated

The First Aid/Personnel Decontamination Team is activated by the Emergency Coordinator (EC) to respond to the injured person.

The Assistant Nuclear Plant Supervisor (ANPS) should notify the Site Medical Facility (may not hear Gai-tronics page).

The EC implements the Medical Emergency Checklist in AP 0005770, "On-site Medical Program." Refer to Section 4.2, "Medical Scenario and Messages."

3.3 SEQUENCE OF EVENTS TIMELINE (continued)

TIME:	0915
EMERGENCY CLASSIFICATION:	UNUSUAL EVENT
SCENARIO EVENT:	

Control Room (Simulator) operators see indications that the Reactor Coolant System (RCS) leakage has increased. The actual leak rate is approximately 65 gallons per minute (gpm).

ANTICIPATED ACTION:

The Emergency Coordinator (EC) declares an ALERT in accordance with EPIP-01, "Classification of Emergencies."

Event/Class	Alert
I.A. <u>Abnormal Primary Leak Rate</u>	<u>RCS Leakage GREATER THAN 50 gpm</u> 1. Charging / letdown mismatch or measured RCS leakage indicates greater than 50 gpm but less than 132 gpm RCS leak.

The EC implements the Alert Checklist in EPIP-02, "Duties and Responsibilities of the Emergency Coordinator":

- Activate the Technical Support Center (TSC) and Operational Support Center (OSC) via Gai-tronics announcement.
- Notify the Duty Call Supervisor to activate Scenario 40 of the FPL Emergency Recall System (autodialer); activates the Emergency Response Organization (ERO).

Note

The Recovery Manager (RM) may elect to have the EOF go operational at any time after this point, at his discretion.

- Notify the State of Florida and St. Lucie and Martin Counties via the State Warning Point (SWP) Hot Ringdown Phone (HRD).
- Notify the Nuclear Regulatory Commission (NRC) via the Emergency Notification System (ENS).
- Notify the Nuclear Division Duty Officer (NDDO).

The responsibility for Emergency Coordinator is turned over to the Plant General Manager or his designee. The Assistant Nuclear Plant Supervisor (ANPS) increases the downpower rate to approximately 20-25 MWe/minute.

3.3 SEQUENCE OF EVENTS TIMELINE (continued)

TIME:	1030
EMERGENCY CLASSIFICATION:	ALERT
SCENARIO EVENT:	

A large break occurs on the 2A1 cold leg resulting in a Loss of Coolant Accident (LOCA). The 2B3 4160 volt bus is lost due to a differential current fault.

ANTICIPATED ACTION:

The Emergency Coordinator (EC) declares a SITE AREA EMERGENCY in accordance with EPIP-01, "Classification of Emergencies."

Event/Class	Site Area Emergency
1.A. <u>Abnormal Primary Leak Rate</u>	<u>LOCA GREATER THAN capacity of charging pumps</u> 1. RCS leakage greater than 132 gpm occurring with RCS pressure above HPSI shutoff head.

(continued on following page)

3.3 SEQUENCE OF EVENTS TIMELINE (continued)

TIME: 1030

EMERGENCY CLASSIFICATION: ALERT (continued)

ANTICIPATED ACTION: (continued)

The EC implements the Site Area or General Emergency Checklist in EPIP-02, "Duties and Responsibilities of the Emergency Coordinator":

- Notify the State of Florida and St. Lucie and Martin Counties via the State Warning Point (SWP) Hot Ringdown Phone (HRD).
- Notify the Nuclear Regulatory Commission (NRC) via the Emergency Notification System (ENS).
- Notify the Nuclear Division Duty Officer (NDDO).
- Request Unit 2 Control Room (Simulator) to:
 - Notify plant personnel that Unit 2 has declared a Site Area Emergency.
 - Activate the Site Evacuation Alarm and have all non-essential personnel evacuate the Owner Controlled Area (OCA) to Jaycee Park (**simulated**).
- Request TSC Security Supervisor to conduct site accountability.

The Assistant Nuclear Plant Supervisor (ANPS) will trip the Unit if it is not already off-line.

The Recovery Manager (RM) activates the Emergency Operations Facility (EOF) if he has not already done so.

Refer to Mini-scenario 4.3.3, "2B3 4160 Volt Bus Differential Current Fault."

3.3 SEQUENCE OF EVENTS TIMELINE (continued)

TIME:	1100
EMERGENCY CLASSIFICATION:	SITE AREA EMERGENCY
SCENARIO EVENT:	

Control Room (Simulator) operators receive an unexplained A side Recirculation Actuation Signal (RAS). All Emergency Core Cooling System (ECCS) capability is lost when the Containment Sump Suction Valve (MV-07-2A) fails to open, and the Refueling Water Storage Tank (RWST) Valve (MV-07-1A) will not re-open.

ANTICIPATED ACTION:

The Emergency Coordinator (EC) declares a GENERAL EMERGENCY in accordance with EPIP-01, "Classification of Emergencies."

Event/Class	General Emergency
6.A. Increased Awareness or Potential Core Melt	<p>Emergency Coordinator's judgement that plant conditions exist that make release of large amounts of radioactivity in a short period appear possible or likely. (any core melt situation)</p> <p>1. LOCA with failure of ECCS leading to severe core degradation or melt.</p>

The EC implements the Site Area or General Emergency Checklist in EPIP-02, "Duties and Responsibilities of the Emergency Coordinator":

- Request Unit 2 Control Room (Simulator) to notify plant personnel that Unit 2 has declared a General Emergency.
- Discuss Protective Action Recommendations (PARs) with the Recovery Manager (RM).

The RM finalizes the PARs in accordance with EPIP-06, "Activation and Operation of the Emergency Operation's Facility":

- Notify the State of Florida and St. Lucie and Martin Counties via the State Warning Point (SWP) Hot Ringdown Phone (HRD).
- Notify the Nuclear Regulatory Commission (NRC) via the Emergency Notification System (ENS).

The Technical Support Center (TSC) and the Emergency Operations Facility (EOF) personnel perform dose assessment in accordance with EPIP-09, "Off-site Dose Calculations."

The TSC directs the field monitoring activities in accordance with EPIP-10, "Off-site Radiological Monitoring."

3.3 SEQUENCE OF EVENTS TIMELINE (continued)

TIME:	1130
EMERGENCY CLASSIFICATION:	GENERAL EMERGENCY
SCENARIO EVENT:	

Core Exit Thermocouple (CET) temperatures approach 700 degrees Fahrenheit. A release of radiation is initiated. The release point is assumed to be at the seal for 2A Containment Sprayline penetration of the Shield Building.

ANTICIPATED ACTION:

The Technical Support Center (TSC) and the Emergency Operations Facility (EOF) personnel perform dose assessments in accordance with EPIP-09, "Offsite Dose Calculations."

EOF personnel perform core damage assessments in accordance with EPIP-11, "Core Damage Assessment."

The Recovery Manager discusses changes in the Protective Action Recommendations (PARs) with officials from the State of Florida and St. Lucie and Martin Counties.

3.3 SEQUENCE OF EVENTS TIMELINE (continued)

TIME:	1145
EMERGENCY CLASSIFICATION:	GENERAL EMERGENCY

SCENARIO EVENT:

The Emergency Core Cooling System (ECCS) capability is restored due to one of the following:

1. Recovery of the 2B3 4160 volt bus and return of the B Train.
(Refer to Mini-scenario 4.3.3, "2B3 4160 Volt Bus Differential Current Fault.")
- or**
2. Valve MV-07-1A supplying water from the Refueling Water Tank (RWT) is successfully opened. (Refer to Mini-scenario 4.3.4, "Failure and Recovery of the Refueling Water Tank (RWT) Valve MV-07-1A.")
- or**
3. Valve MV-07-2A supplying water from the Containment Sump is successfully opened.
(Refer to Mini-scenario 4.3.5, "Failure and Recovery of the Containment Sump Valve MV-07-2A.")

ANTICIPATED ACTION:

Control Room (Simulator) operators establish long-term cooling.

3.3 SEQUENCE OF EVENTS TIMELINE (continued)

TIME:	1400
EMERGENCY CLASSIFICATION:	GENERAL EMERGENCY
SCENARIO EVENT:	

The exercise is terminated.

ANTICIPATED ACTION:

A Facility Critique, moderated by the Lead Controller, will be held in all key facilities with the Players.

**FLORIDA POWER AND LIGHT COMPANY
ST. LUCIE PLANT
2000 EMERGENCY PREPAREDNESS EVALUATED EXERCISE
FEBRUARY 16, 2000**

3.4 CONSOLIDATED TIMELINE

S-TIME	CLOCK	SIMULATOR INSTRUCTION	EVENT NO.	EVENT DESCRIPTION	EMERGENCY PLAN ACTIONS	TEAMS DISPATCHED
00:00	07:00	Initial Setup	---	Shift Turnover Initial Conditions	None	Containment entry underway - HPT and Utility Worker
(00:13) 00:15	(07:13) 07:15	RCS Leakage	1	RCS leakage to 13 gpm		
00:30	07:30			RCS leakage >10 gpm UNUSUAL EVENT Declaration	Containment Evacuation Alarm may be sounded. Classify the emergency per EPIP-01. Complete Unusual Event Checklist per EPIP-02.	HP Team will exit Containment.
01:00	08:00	None	---	Medical Emergency	Complete "Instructions" per EPIP-00. Complete Medical Emergency Checklist per AP 0005770.	First Aid/Personnel Decontamination Team Security Site Medical Facility Personnel
(01:48) 02:00	(08:48) 09:00	Increase RCS Leakage	2	RCS leakage to 65 gpm		
02:15	09:15	(Store Point)		RCS >50 gpm ALERT Declaration	Classify the emergency per EPIP-01. Complete Alert Checklist per EPIP-02. Implement Health Physics HP-200 series procedures.	FPL ERO activates the TSC and OSC. EOF ERO reports to the EOF. HP FMT Red Team dispatched.
03:00	10:00	(Store Point)				

