



Federal Emergency Management Agency

Washington, D.C. 20472

Mr. James Taylor
Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

OCT 23 1992

Dear Mr. Taylor:

This is to provide you with the interim report of the Federal Emergency Management Agency's (FEMA) review of the status of offsite radiological emergency preparedness capabilities in the 10-mile Emergency Planning Zone (EPZ) around the Turkey Point Nuclear Power Plant in the aftermath of Hurricane Andrew. The final report will be provided when we have received additional annexes from State and local officials responsible for offsite emergency preparedness in the area. The enclosed report is the product of extensive coordination among FEMA, NRC, the State of Florida, Dade and Monroe County emergency management officials, and Florida Power and Light (FPL). Enclosed are letters from the State of Florida and Dade County endorsing FEMA's assessment.

It is important to review the report and its conclusions to appreciate the depth to which the participants went to assure a comprehensive review of preparedness around Turkey Point. This report represents the first time that such a review has been necessitated or conducted as a result of natural disaster impacts on an emergency preparedness infrastructure and population located within the 10-mile EPZ of a commercial nuclear power plant.

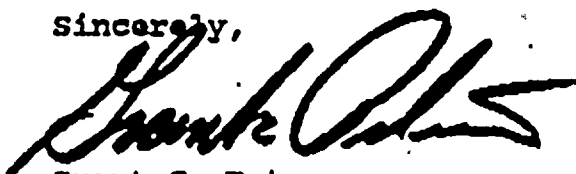
This offsite assessment undertaken for the Turkey Point facility by FEMA is similar to our typical 44 CFR Part 350 process, in that findings are made on the basis of whether or not plans and preparedness are adequate to provide reasonable assurance that appropriate protective measures can be taken offsite in the event of a radiological emergency to protect the public health and safety. It differs in two important aspects. First, FEMA had already conducted a comprehensive review of the planning and preparedness capabilities of the State of Florida and Dade and Monroe Counties, including the evaluation of four full-scale exercises, in support of granting and maintaining "350" approval. We focused our review upon those preparedness elements of NUREG-0654/FEMA-REP-1, which could have been impacted by Hurricane Andrew. Second, we have closely reviewed compensatory actions that are necessary to reestablish the adversely impacted State and local emergency response capabilities. Typically, FEMA evaluates emergency capabilities for which no compensatory action is necessary.

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The State of Florida had previously been granted a "350" approval for offsite radiological emergency plans for Turkey Point which carries a finding of "reasonable assurance." Clearly, the only issue was the disaster impacts on the EPZ. FEMA has surveyed and reviewed critical areas of emergency preparedness and determined areas where compensatory measures were needed. We believe this assessment is enhanced because of extensive actual field verification of many of the preparedness elements of the plan. All essential identified compensatory measures have been taken or are in process.

On the basis of this assessment and compensatory measures taken, we can reaffirm that there is reasonable assurance that the public health and safety can be protected in the event of a radiological emergency at the Turkey Point Nuclear Power Plant. FEMA will continue to monitor the implementation of the few remaining areas where action is in process.

Sincerely,



Grant C. Peterson
Associate Director
State and Local Programs
and Support

Enclosure



Federal Emergency Management Agency

Region IV 1371 Peachtree Street, NE Atlanta, Georgia 30309

October 23, 1992

MEMORANDUM FOR: GRANT C. PETERSON
ASSOCIATE DIRECTOR
STATE AND LOCAL PROGRAMS AND SUPPORT

FROM: Major P. May *Major P. May*
Regional Director

SUBJECT: Recommendation for a Finding on Offsite
Preparedness at the Turkey Point Nuclear
Power Plant.

This is to provide you with a recommendation for a finding to be provided to the Nuclear Regulatory Commission based on the FEMA assessment of the status of offsite radiological emergency planning and preparedness at the Turkey Point Nuclear Power Plant. This assessment was deemed necessary due to the impact of Hurricane Andrew on the emergency preparedness infrastructure in the ten mile Emergency Planning Zone for Turkey Point.

I have worked closely with the field team headed by Craig Wingo and closely monitored the team's activities. I am in concurrence with the findings and conclusions of the preliminary report entitled "Interim Turkey Point Nuclear Power Plant Offsite Emergency Preparedness Assessment Report in the Aftermath of Hurricane Andrew, Disaster-Initiated Review". Based on the assessment, I recommend that you provide a finding that plans and preparedness are adequate to provide reasonable assurance that appropriate protective measures can be taken offsite in the event of an emergency at Turkey Point.



**STATE OF FLORIDA
DEPARTMENT OF COMMUNITY AFFAIRS**

2740 CENTERVIEW DRIVE • TALLAHASSEE, FLORIDA 32399-2100

LAWTON CHILES
Governor

LINDA LOOMIS SHELLEY
Secretary

October 23, 1992

**Mr. Major P. May
Federal Coordinating Officer
Federal Emergency Management Agency
38th and LeJeune Ave.
P. O. Box 4022
Miami, FL 33159**

Dear Mr. May,

This letter serves to confirm my review of and concurrence with the assessment of offsite emergency planning and preparedness performed by the Federal Emergency Management Agency in the aftermath of Hurricane Andrew. Based on this assessment, I believe there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the Turkey Point Nuclear Power Plant. The State of Florida Radiological Emergency Management Plan for Nuclear Power Plants has been assessed and with the Dade County compensatory measures described below, can be effectively implemented to protect public health and safety:

- To ensure transients (construction workers) entering into the EPZ are informed. Spanish and English warning signs have been installed on the major arteries entering the EPZ.**
- To ensure the residents within the Life Support Centers understand what to do in the event of an emergency, flyers were delivered to the residents and warning signs have been placed in numerous Red Cross Service Centers.**
- To ensure that the residents living in devastated and condemned homes, receive emergency information: (1) the outdoor warning system public address system will be used to provide instructions to those who would not otherwise be able to receive emergency information and (2) local law enforcement will perform route alerting in these areas heavily damaged and not covered by the siren system public address.**

EMERGENCY MANAGEMENT • HOUSING AND COMMUNITY DEVELOPMENT • RESOURCE PLANNING AND MANAGEMENT.

Mr. Major P. May
October 23, 1992
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- To ensure that the transportation dependent are adequately protected, route alerting will be performed by local law enforcement supported by mini vans to assist those with transportation needs. Additionally, many new pick up points have been added to cover the new FEMA trailer parks, Life Support Centers, and other necessary locations.
- To ensure that the populations with special needs are taken care of a re-registration is underway and each of the special needs facilities in the EPZ have been surveyed and re-registered as appropriate.

In addition, the Division of Emergency Management will continue to assess its capabilities regarding emergency response and will make any changes and enhancements necessary to provide adequately for the health and welfare of Florida and Dade County residents. I appreciate the opportunity to participate in this assessment.

Sincerely,

Robert G. Nave

Robert G. Nave, Director
Division of Emergency Management

October 23, 1992

Robert Nave, Director
Division of Emergency Management
Department of Community Affairs
2740 Centarview Drive
Tallahassee, Florida 32399

Dear Mr. Nave:

This letter serves as my confirmation and concurrence with the assessment of offsite emergency planning and response performed in the aftermath of Hurricane Andrew by the Federal Emergency Management Agency in conjunction with the Department of Community Affairs, Division of Emergency Management and the Dade County Office of Emergency Management. The Emergency Planning Zone for the Turkey Point Plan was the area most devastated by Hurricane Andrews. Through the implementation of compensatory measures designed to address changes in demographics, infrastructure, and resources, adequate protective measures can be implemented to meet the criteria of NUREG 0654 in the event of a radiological emergency at the Turkey Point Nuclear Power Plant.

The Dade County Emergency Operations Plan, Section 2, Turkey Point Procedure, has been assessed and with the compensatory measures described below, all of which have been developed with and thoroughly reviewed by both FEMA and DCA/DEM, will meet public safety criteria. These compensatory measures, as are the Emergency Planning Zone and Dade County, are dynamic and as Dade County moves toward recovery, stringent reassessments will ensure that appropriate changes and enhancements are made. A schedule for reassessment is included in the report.

The compensatory measures which evolved from the assessment address the areas of notification and warning, and evacuation. They include:

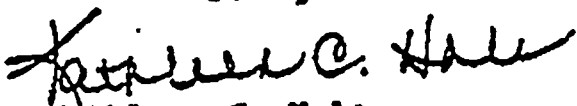
- To ensure transients (construction workers) entering into the EPZ are informed, Spanish and English warning signs have been installed on the major arteries entering the EPZ.

Flyers were delivered to residents of the Life Support Centers, and signs have been placed at Red Cross Service Centers.

- To ensure that residents in devastated and condemned homes receive emergency information, the outdoor warning system public address system will be used to provide instructions to those who would not otherwise be able to receive emergency information, and additionally, local law enforcement will perform route alerting in those areas heavily damaged and not covered by the siren system public address.
- To ensure that the transportation dependent are adequately protected, route alerting will be performed by local law enforcement supported by transit vehicles to assist those with transportation needs. Additionally, new pick-up points have been added to cover the new FEMA trailer parks, and other necessary locations.
- To ensure that the population with special needs are taken care of, on-going registration for evacuation assistance is being performed. Additionally, FEMA's assessment of all medical and dependent care facilities has been reviewed by this office against information available from state licensing programs. Each of those which remain operational will be individually contacted by law enforcement personnel who will then assist with notification to OEM if special transportation assistance is required. These facilities will be monitored on an on-going basis to ensure facilities which return to operational status are included.

If you have any questions on the attached report, please contact me or Patrick Godfrey at (305) 596-8700.

Sincerely,


Kathleen C. Hale
Director

Enclosure: Dade County Post-Andrew Assessment Report - Turkey
Point Nuclear
Power Plant.

EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING FEDERAL EMERGENCY MANAGEMENT AGENCY REAFFIRMATION
OF REASONABLE ASSURANCE CONCERNING THE STATUS
OF OFFSITE EMERGENCY PREPAREDNESS
AROUND TURKEY POINT

1.0 INTRODUCTION

On September 29, 1992, the Federal Emergency Management Agency (FEMA) informed the NRC and the licensee that, without assessing the status at the site, it could not confirm the adequacy of offsite emergency preparedness (EP) around the Turkey Point Station after the extensive damage to the region caused by Hurricane Andrew. The licensee agreed to shut down Unit 4 until FEMA concludes its reassessment of the status of offsite preparedness around Turkey Point. FEMA dispatched a team to the area to evaluate the emergency preparedness of offsite State and local authorities for Turkey Point.

FEMA assessed the essential elements of emergency preparedness that Hurricane Andrew could have affected. In an October 16, 1992 letter to the NRC, FEMA submitted its preliminary report in which it discussed areas of concern and the compensatory measures in progress. On October 23, 1992, FEMA submitted its interim report to the NRC reaffirming that there is reasonable assurance that the public health and safety can be protected in the event of a radiological emergency at the Turkey Point Station.

2.0 NRC STAFF REVIEW OF THE FEMA INTERIM REPORT

The NRC staff reviewed the FEMA interim report of October 23, 1992, with particular attention to the following areas that FEMA identified as aspects of offsite EP which may have been impacted by Hurricane Andrew: (1) Personnel Resources, (2) Communications, (3) Alert and Notification, (4) Evacuation, (5) Reception and Congregate Care, (6) Monitoring and Decontamination, and (7) Medical Services. Following are FEMA's conclusions and descriptions of compensatory measures for each of these areas as extracted from the FEMA interim report.

2.1 PERSONNEL RESOURCES

Dade County:

"Staff from the various agencies would still be available to respond and provide the required command and control at the Dade County EOC."

Monroe County:

"Staff from the various agencies are available to respond and provide the required command and control at the Monroe County EOC."

State of Florida:

"Key State of Florida staff members would be available to respond and provide the required command and control for the State functions in the event of an emergency at the Turkey Point Nuclear Power Plant."

2.2 COMMUNICATIONS

Dade County:

"All of the necessary Dade County emergency communications systems documented in Annex IV of the County's peacetime emergency plan (Annex E, Appendix 1) are operational. These systems would be utilized for communications in the event of a radiological emergency at the Turkey Point Nuclear Power Plant and ensure a 24-hour per day capability to communicate. These communications capabilities between response agencies and the EOC have in no way been diminished by the effects of Hurricane Andrew."

Monroe County:

FEMA determined that "emergency communications capabilities for Monroe County have not been affected by Hurricane Andrew."

2.3 ALERT AND NOTIFICATION

Dade County:

"The primary alerting and notification system in Dade County, sirens and EBS, is fully operational. However, it is believed that many residents and transients in the area may not have ready access to radios for hearing EBS messages. Backup notifications to special facilities and to persons with special needs that depend on commercial telephone lines are presently hampered by ongoing outages and interruptions of service. Therefore, there is a need to compensate for this degradation of notification capability by greater reliance on other means of backup notification, such as route alerting and using outdoor warning sirens in the public address mode. There exists a need to periodically update the operational status and telephone notification capability of those facilities located within the EPZ, whether or not they are currently listed in the plan."

Monroe County:

"Alert and notification in Monroe County (Ocean Reef) is accomplished by mini-siren warning to the Ocean Reef Department of Public Safety, and route alerting to Ocean Reef residents. Operability of the Ocean Reef mini-siren was verified on October 5 and 6, 1992, in conjunction with spot checks of the rest of the warning system in the 10-mile EPZ. The siren was activated in the public address mode from the "911" Center, and monitored by telephone. The siren operated satisfactorily."

Some Department of Public Safety vehicles in Ocean Reef were damaged by the hurricane. However, sufficient vehicles were available at the time of this assessment to perform route alerting. Also, the Monroe County Sheriff confirmed that additional vehicles and officers were available to supplement Ocean Reef resources for route alerting."

2.3.1 Compensatory Measures for Public Alert and Notification

"It has been agreed that the following steps will be taken to alleviate the concern for public alert and notification:

The status of special needs facilities will be determined by in-person visits to the facilities. The status of PSNs [persons with special needs] will be assessed through a mailed flyer and a newspaper notice, requesting PSNs in the 10-mile EPZ to identify their needs to the county.

Until the status of condemned structures and the number of persons living in them can be determined, the county will employ route alerting using patrol cars equipped with public address systems to inform residents of protective actions. In addition, the public address capability which is part of the existing siren system will be used to inform residents of the meaning of siren soundings and appropriate protective actions. Messages for use in this system will be drafted by Dade County OEM and FPL.

Each patrol car engaged in route alerting will be followed by a Metro-Dade Transit bus to pick up transportation dependent evacuees who cannot be advised of regular pick-up points. Transportation arrangements are subject to the development of a memorandum from Dade County OEM to the Metro-Dade Police indicating the need for the Police Department to identify additional alerting routes and accordingly allocate resources for these routes.

The residents that are living in Life Support Centers or are not capable of viewing/listening to TV/radio can be notified of an emergency at Turkey Point through route alerting and the use of the public address mode on the outdoor warning system (sirens)."

2.3.2 Status of Compensatory Measures for Public Alert and Notification

"On October 17, 1992, FPL conducted in-person visits to special facilities to identify their status and ability to receive notification. FEMA independently verified this information by in-person visits to the special facilities on October 20-22, 1992.

FPL provided maps to FEMA on October 12, 1992, indicating the coverage of the siren system using the public address mode (Annex I of this report). These maps indicate that the voice coverage of the public address system on the sirens could adequately cover the major devastation areas and the Life Support Centers (tent cities) located within the EPZ, pending verification of audibility of the system. Audibility will be checked in conjunction with the full cycle test of the system in November 1992.

Procedures for activating the outdoor warning sirens in the public address mode are incorporated into existing procedures for siren activation.

FPL provided maps to the county on October 20, 1992, overlaying the coverage of the public address mode of the warning sirens on the EPZ map that includes the devastated areas. The county transmitted these maps on October 21, 1992, to MDPD, the City of Homestead Police Department, and the Florida City Police Department.

Dade County OEM completed MOUs on October 20 to 21, 1992, with MDPD, the City of Homestead Police Department, and the Florida City Police Department, and provided them to FEMA on October 22, 1992, arranging for additional route alerting and traffic control.

On October 12, 1992, FPL installed outdoor warning signs at the Red Cross Service Centers within the EPZ. Outdoor warning signs were also installed at the entrance(s) to the Life Support Centers on October 12, 1992, at the locations listed in Annex G, Appendix 2 of this report.

FPL developed a handout which was given to the residents of the Life Support Centers advising them of the actions they would need to take in the event of an emergency at Turkey Point. On October 14, 1992, FPL obtained comments on the handout from the Dade County Office of Emergency Management and the State of Florida officials. FPL incorporated those changes into the handout which was printed in both Spanish and English. FPL distributed the handout on October 16, 1992.

FPL developed a flyer that was delivered via U.S. Mail to all residents of the EPZ. This flyer provides planning information and a telephone number for special need registry. On October 14, 1992, FPL obtained comments on the flyer from the Dade County Office of Emergency Management and the State of Florida officials. FPL incorporated those changes into the flyer which was printed in both English and Spanish. FPL distributed that flyer in October 16, 1992.

FPL has committed to publish a newspaper notice and broadcast a radio announcement shortly before the full cycle test of the siren system in November 1992. The newspaper notice and radio announcement will include a reply number for PSNs to register themselves with the county.

On October 12, 1992, FPL provided the 1991-92 Safety Planning Information (Public Information Brochures) to the FEMA trailer sites located within the EPZ. These brochures were delivered to security or the manager of the trailer complexes to ensure that residents living in the trailers are informed of what to do in the event of a radiological emergency at Turkey Point."

2.4 EVACUATION

Dade County:

"The evacuation routes in Dade County are all open. Most signs on major arteries and streets have been replaced or repaired. Law enforcement would direct evacuees out of the area to reception centers. Security of the area would be maintained by local and/or State law enforcement personnel. Resources (buses, drivers, ambulances,) are available to evacuate all special elements of the population."

Monroe County:

"The evacuation routes in Monroe County/Ocean Reef are all open. Law enforcement personnel are available for traffic control, security of the evacuated area and to assist in route alerting and notification. Resources are available for route alerting and evacuation of the special elements of the population."

2.4.1 Compensatory Measures for Transportation-Dependent Populations

"It has been agreed that the following steps will be taken to alleviate the evacuation concern caused by the loss of personal vehicles.

- (1) The number of evacuee pick-up points will be increased by Metro-Dade Transit. Additional new pick-up points will be established at each tent city location. This issue is expected to disappear by October 23, 1992, since, tentatively, all tent cities will be dismantled by that date.
- (2) EBS pre-scripted messages will be modified to include the new pick-up points.
- (3) Arrangements for the increase in evacuee transportation will be documented in a MOU between Dade OEM and Metro-Dade Transit.
- (4) REP training will be provided to new school bus drivers who could be called on to assist with an evacuation."

2.4.2 Status of Compensatory Measures for Transportation-Dependent Populations

"Dade County has identified additional pick-up points. The additional pick-up points will be monitored, and modified as needed, on an ongoing basis. FEMA will continue to provide the county with up-to-date map information from the Disaster Field Office relative to this requirement.

Dade County completed the scripting of EBS messages, including additional pick-up points, and provided a sample message to FEMA on October 22, 1992.

Dade County OEM and the MDTA completed a MOU on October 21, 1992, and provided it to FEMA on October 22, 1992, arranging for additional buses and pick-up points for evacuee transportation.

FPL has confirmed in writing to the Metro-DATE Office of Emergency Management on October 14, 1992, its commitment to provide REP training to school bus drivers who could be called upon to assist with an evacuation in the event of an emergency at the Turkey Point Nuclear Power Plant. The training is expected to be completed by January 1, 1993."

2.4.3 Compensatory Measures for Increase in Transient Population

"It was agreed that warning signs would be installed at all major entrances to the EPZ, in both English and Spanish. Dade County OEM would determine the locations and numbers of highway signs to be posted at major local intersections."

2.4.4 Status of Compensatory Measures for Increase in Transient Population

"FPL has installed outdoor warning signs in both English and Spanish at all of the major entry points into the EPZ (exits to the turnpike and major arteries into the EPZ). Approval for and installation of these warning signs proceeded as follows.

- (1) Florida Turnpike DOT approved the installation of eight signs located at turnpike exits and four signs located on the right of way along non-turnpike state routes. FPL installed English-language signs on October 14 and 15, 1992; installation of Spanish-language signs was completed on October 22, 1992.
- (2) Dade County approved the location and supervised the installation of outdoor warning signs along four non-state-controlled arteries. English-language signs were installed on October 15, 1992; installation of Spanish-language signs was completed on October 22, 1992.
- (3) With the approval of Dade County officials, FPL installed four outdoor warning signs at the Bayfront Park boat ramp on October 9, 1992."

2.5 RECEPTION AND CONGREGATE CARE

"From evidence acquired, the 47 congregate care centers designated in the Turkey Point Site Plan will remain unchanged. The capability to operate congregate care centers has not been affected."

"From evidence acquired, Hurricane Andrew has made no impact on the capability of Monroe County relocation centers."

2.6 MONITORING AND DECONTAMINATION

"From the evidence acquired it can be concluded that Dade County and the State of Florida can carry out their plans for conducting monitoring and decontamination operations."

"From the evidence acquired, there is basis for concluding that Monroe County can carry out their plans for conducting monitoring and decontamination operations."

2.7 MEDICAL SERVICES

2.7.1 Metro-Dade County

"The Metro-Dade Fire Department is responsible for transporting certain individuals affected by radiological emergencies to medical support facilities. According to the County REP Coordinator, Hurricane Andrew did not affect the personnel, equipment, vehicles, or dosimetry needed to transport contaminated-injured individuals. Hence, the Miami-Dade Fire Department has full capacity to transport contaminated-injured individuals."

Medical Services

1. Baptist Hospital of Miami

"On October 9, 1992, the Medical Director, Department of Emergency Medicine, was interviewed at Baptist Hospital. Fifty of the hospital staff lost their homes. However, they are now settled in trailers and apartments near Baptist Hospital. The Medical Director stated that the necessary staff is available and that Baptist Hospital has the capability to treat contaminated-injured individuals."

Supplies and Equipment

"The emergency room, contamination control supplies, dosimetry, and monitoring equipment were inspected as part of this assessment and were found not to have been damaged by Hurricane Andrew."

Communications

"Communications at the hospital were unchanged. Hospital communication systems include commercial telephone lines, UHF communications with the Turkey Point Nuclear Power Plant, and telemetry communications with rescue squads and the Metro-Dade Fire Department. Most of the hospital staff have cellular telephones."

2. Mercy Hospital

"Dade County designated Mercy Hospital as the secondary offsite medical facility to be used to treat contaminated-injured members of the general public.

The Medical Director of Emergency Services/Chief, Division of Emergency Medicine at Mercy Hospital was interviewed on October 5, 1992, at Mercy Hospital.

Mercy Hospital was evacuated on August 23-24, 1992, because of its location. The medical facility was closed for 36 hours according to the Medical Director of Emergency Services/Chief, Division of Emergency Medicine. About six feet of water flooded the hospital causing some water damage. The hospital is now operational and the hospital is staffed with the primary and support personnel needed to treat the contaminated-injured individuals."

Communications

"Communications have been completely restored at Mercy Hospital. Some private cellular telephones were donated to the hospital by private vendors during the hurricane. The cellular telephones will be distributed to all primary support staff. Commercial telephones at the hospital are now functional."

Equipment

"Monitoring equipment, dosimetry, contamination control supplies and equipment were not damaged by Hurricane Andrew."

Facility

"Mercy Hospital, including the emergency room (ER) where contaminated-injured individuals would be treated, was inspected with the Medical Director of Emergency Services/Chief, Division of Emergency Medicine for this assessment. Damage from Hurricane Andrew has been repaired. The capability of the medical facility to treat contaminated-injured individuals is at the pre-Hurricane Andrew level.

As of October 5, 1992, the date of the interview with the Medical Director of Emergency Services/Chief, Division of Emergency Medicine, Mercy Hospital has regained its pre-hurricane capability to treat contaminated-injured individuals. The medical facility was back in operation on August 25, 1992."

2.7.2 Monroe County

"The capacity of Monroe County to transport contaminated-injured patients was not affected. The emergency medical services personnel, equipment, vehicles, and supplies were not affected by Hurricane Andrew according to Monroe County and Ocean Reef Officials. They indicated that Ocean Reef rescue and fire vehicles were unharmed by Hurricane Andrew."

Emergency Medical Facilities

"Monroe county contaminated-injured patients will be routinely transported to Mercy and Baptist Hospitals in Miami. These medical facilities have been designated by the State of Florida and Dade County to treat contaminated-injured individuals who are exposed to radiation as a result of a release from the Turkey Point Nuclear Power Plant. Hospital administrators were interviewed at Mercy and Baptist Hospitals. These medical facilities are now fully operational."

3.0 CONCLUSIONS

The NRC staff has reviewed the Interim Turkey Point Nuclear Power Plant Offsite Emergency Preparedness Assessment Report in the Aftermath of Hurricane Andrew, a review prepared by FEMA on October 23, 1992. The staff has also reviewed an accompanying transmittal letter of October 23, 1992, from FEMA's Associate Director to NRC's Executive Director of Operations, including attached letters from the State of Florida and Dade County. On the basis of this documented information and its own assessment of onsite emergency preparedness, included in the staff's review of the preparations for restart (Enclosure 3), the NRC staff concludes that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the Turkey Point Station.

THE STAFF'S ASSESSMENT OF ONSITE ISSUES

The staff has completed its assessment of onsite issues pertaining to the restart of Turkey Point Station, Unit 4, after Hurricane Andrew. The staff initiatives for Unit 4 start-up are described in a "Task Interface Agreement - Turkey Point Unit 4 Restart Following Hurricane Andrew (TIA 92-28)," September 28, 1992. Upon reviewing, evaluating, and inspecting each of the regulatory issues discussed in the TIA, the staff found them to meet the licensing bases and, therefore, acceptable as described herein.

INSPECTION

The staff inspected physical security, health physics, operational testing, technical specifications (TS) deviations (10 CFR 50.54x), the interim fire protection system, the structural integrity of the stack for fossil fuel-fired Unit 2, and the demolition of the Unit 1 stack. The staff is documenting its findings in inspection reports.

Additionally, NRC management visited the Turkey Point site, on September 10 and September 22, 1992. During that time the staff toured the facility to review the hurricane damage and the licensee's corrective actions.

Resident inspectors independently performed area walkdown inspections and verified that the licensee's hurricane damage assessment was accurate. The resident inspectors reviewed the licensee's comprehensive restart readiness checklist and verified that it had resolved major items before restart, including interim fire protection system configuration, Unit 1 stack demolition, drying and testing C bus breakers, resolution of emergency diesel generator (EDG) problems, resolution of closed circuit television (CCTV) coverage for Thermolag areas, and intake canal cleanup. The resident inspectors also witnessed maintenance activities in the following areas: 4C reactor coolant pump (RCP) seal package, fire protection, 4A main steam isolation valve (MSIV) steam trap elbow replacement, B auxiliary feedwater pump turbine governor, and 4A MSIV control circuitry. The resident inspectors determined that these activities were well performed.

The resident inspectors witnessed 5 of the 16 system readiness tests conducted by the licensee, including auxiliary feedwater, intake cooling water, high head safety injection, intake screen wash pumps, and standby feedwater pumps. The licensee conducted these tests to verify that pumps, valves, gauges, and other components were operational and to help find any repair activities that would be required before starting the unit. Resident inspectors also witnessed seven of the numerous Technical Specifications-required surveillance tests that the licensee conducted on equipment, including fire protection, containment spray, and auxiliary feedwater. Resident inspectors also walked down the high head safety injection system and verified proper lineup, labelling, housekeeping, maintenance, and instrumentation. The inspectors verified that necessary systems were ready for unit startup.

Regional inspectors reviewed the radiation protection program, including onsite health physics (HP) staffing, equipment availability, low-level radioactive waste management and source control and/or accountability, and operational management controls; the operability and surveillance of liquid and gaseous effluent monitors; and meteorological and offsite environmental monitoring. Regional inspectors also reviewed areas of the emergency preparedness program for which the licensee is responsible, including portions of the prompt notification system, communications systems, call-out procedure for the emergency response organization, the emergency response facility and public information dissemination. The inspectors determined that these programs and equipment were functioning properly and met regulatory requirements.

Regional inspectors evaluated the extent of the damage to the security systems and the licensee's compensatory and corrective actions. The hurricane damaged portions of the perimeter barrier and systems, and power and law enforcement communications were lost. The licensee implemented compensatory measures and re-instituted the security plan requirements in a timely and effective manner. The inspectors verified that security system and protective perimeter barriers were adequately repaired, and the security program met regulatory requirements.

The Unit 4 startup and return to service were monitored by NRC personnel on-shift with 24-hour coverage. Shift coverage by resident staff commenced on day shift September 27, 1992, with the unit in cold shutdown and beginning plant heatup. In addition to the NRC personnel on shift, the licensee implemented a program to have FPL managers assigned to each shift, providing an oversight function.

On September 28, 1992, a teleconference was conducted with Region II and NRR management, senior licensee personnel and the NRC resident staff. The purpose of the call was to address any remaining concerns regarding equipment status prior to Unit 4 reactor startup. NRC management concurred with the licensee's plan to restart the Unit 4 reactor.

On September 29, the Unit 4 reactor went critical. In response to the identification of two missed Technical Specification surveillances and to problems identified on the B AFW pump turbine mechanical overspeed trip, the reactor was shut down. Following resolution of these problems, on September 30, the unit was again taken critical and the B AFW pump turbine was successfully tested and returned to service.

On October 1, the licensee commenced a voluntary shutdown from 30% power after being informed that the post hurricane re-verification of the adequacy of the offsite emergency planning facilities and equipment located within the 10-mile emergency planning zone around the site had not been completed. FEMA estimated two weeks would be required to complete the assessment. FPL suspended operation of the unit until the FEMA re-assessment was completed. After observing the reactor shutdown and commencement of the cooldown, shift coverage by resident staff concluded on the evening of October 1, 1992. Unit 4 reached cold shutdown on October 2.

After shutting down Unit 4, the licensee found a slight weeping of moisture from the 4A residual heat removal (RHR) pump casing. The licensee analyzed the condition and determined that the weeping resulted from a manufacturing flaw in the casting, which had deteriorated over time. The licensee performed a Code weld repair and satisfactorily tested the pump. The resident inspectors observed the repair and testing and found them to be satisfactory.

On October 23, the NRC informed FPL that FEMA had reaffirmed that there is reasonable assurance that adequate protective measures can be taken in the event of a radiological emergency at the Turkey Point Station. FPL then commenced Unit 4 reactor restart. The reactor went critical and was placed online on October 25. Region II began 24-hour coverage of Unit 4 activities on October 21 during day shift and continued such coverage through the start of full power operation.

UNITS 1 AND 2 (FOSSIL FUEL-FIRED STACKS)

The hurricane caused significant damage to the stack for Unit 1, which is fueled by fossil fuel. This damage posed a personnel safety concern. On September 4, 1992, the licensee removed the stack using controlled demolition techniques. Before the stack was demolished, the staff reviewed the licensee's evaluation and safety precautions and found them acceptable. The Unit 2 stack sustained only minor cracks. The staff physically examined the cracks at approximately one-half the height of the stack. To demonstrate the structural integrity of the Unit 2 stack in its present condition before making a planned modification, the licensee evaluated the stack for the original design basis wind load. The licensee concluded that the stack, in its present condition, can withstand its original design wind loading without adverse interaction with the nuclear units. The staff reviewed the licensee's analyses and found them acceptable for restart of Unit 4. The staff documented its review in the September 22, 1992 meeting summary issued on October 14, 1992. The licensee plans to modify the Unit 2 stack with new structural reinforcements to meet current codes before the next hurricane season.

FIRE PROTECTION SYSTEM

Hurricane Andrew damaged portions of the fire protection system, including the raw water tank (RWT) 1, which is one of the two independent fire water sources. RWT 2 remained operable after the storm and can provide the water supply required in the design basis. The licensee repaired the fire water supply system for RWT 2. Until replacing RWT 2, the licensee has implemented an interim fire protection system using water from the cooling canals with three existing screen wash pumps and additional temporary diesel pumps as an alternate fire water source. The licensee documented in a 10 CFR 50.59 package that the interim fire protection configuration complies with the requirements of Appendix R to 10 CFR Part 50, is consistent with the compensatory measures specified in the technical specifications, and can

Enclosure 3

deliver the required fire water flow. The staff reviewed the licensee's documentation and found it acceptable for restart of Unit 4. The staff documented its evaluation in the September 22, 1992 meeting summary issued on October 14, 1992. The licensee expects to restore the fire protection system configuration to the existing code standards with some design enhancements by early November 1992.

The resident inspectors walked down the interim fire protection water supply system and verified that system lineup, labelling, housekeeping, maintenance, and instrumentation were adequate. Resident inspectors also witnessed surveillance tests of the fire protection system. A regional fire protection inspector later independently walked down the interim fire protection system and verified that system alignment conformed with the licensee's safety evaluation.

OTHER ISSUES

On October 2, 1992, the staff conducted a press conference at the Turkey Point site to discuss the Unit 4 shutdown and the need to evaluate the status of offsite EP issues around the Turkey Point site.

On October 21, 1992, the staff met with Senator Bob Graham's (D-Florida) Subcommittee staff and briefed them on questions raised by the Senator's constituents on the effect of Hurricane Andrew at Turkey Point.

On October 15, 1992, the staff received a Petition pursuant to 10 CFR 2.206 from Mr. Regino R. Diaz-Robainas (Petitioner) regarding operation of the Turkey Point units. On October 21, 1992, the Petitioner filed an addendum to the Petition. In the Petition and its addendum, the Petitioner alleged a number of deficiencies with the Turkey Point units and requested that the units not be allowed to restart until the Petitioner's concerns are addressed. Upon reviewing issues raised in the Petition and the licensee's restart activities, the staff concluded that several of the Petitioner's concerns have previously been considered in the staff's inspections and evaluations and others are not of sufficient safety significance to warrant action by the NRC to preclude restart of the Turkey Point units. On October 23, 1992, in its acknowledgement letter to the Petitioner, the staff denied the Petitioner's request that the Turkey Point units remain shut down until his concerns are addressed and indicated that the staff will act on the specific issues raised in the Petition within a reasonable time.

Enclosure 3



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

October 23, 1992

Docket No. 50-251

Mr. J. H. Goldberg
President - Nuclear Division
Florida Power and Light Company
P. O. Box 14000
Juno Beach, Florida 33408-0420

Dear Mr. Goldberg:

SUBJECT: TURKEY POINT UNIT 4 RESTART

On October 1, 1992, following discussions between you, the Federal Emergency Management Agency (FEMA) and the NRC, you brought Unit 4 to cold shutdown pending further consideration by FEMA and the NRC of the status of emergency planning in the area around the Turkey Point site.

Enclosed is a copy of a letter dated October 23, 1992, from Grant Peterson, Associate Director of FEMA, to me reaffirming FEMA's finding that there is "reasonable assurance that the public health and safety can be protected in the event of a radiological emergency at the Turkey Point Nuclear Power Plant." Mr. Peterson indicates that FEMA will continue to monitor the implementation of the few remaining areas where action is in progress. Accordingly, the conditions which led to my request that Turkey Point not be operated until FEMA had the opportunity to review offsite emergency preparedness have now been satisfied and there is no longer any reason from the standpoint of nuclear safety that the plant cannot resume operation.

The NRC has previously concluded that plant conditions at Turkey Point Unit 4 are such that there is reasonable assurance that it can be operated safely.

As indicated in the FEMA letter, a final report will be made available. We urge you to read this report carefully and to note any obligations on FP&L's part to ensure continued reasonable assurance that the emergency plans are capable of protecting public health and safety.

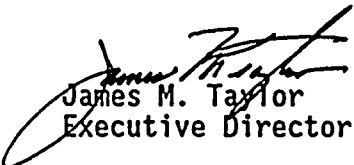
Mr. J. H. Goldberg

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October 23, 1992

I wish to thank you for the invaluable, cooperative assistance FP&L has provided in dealing with emergency preparedness issues and note the cooperation provided by State and local emergency preparedness officials as well as the efforts of FEMA to resolve the emergency preparedness issues.

Sincerely,


James M. Taylor
Executive Director of Operations

Enclosure:
FEMA letter