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

October 20, 1992

MEMORANDUM FOR: The Chairman
Commissioner Rogers
Commissioner Curtiss
Commissioner Remick
Commissioner de Planque

FROM: James M. Taylor
Executive Director for Operations

SUBJECT: TURKEY POINT UNIT 4 - SHUTDOWN BECAUSE OF OFFSITE EMERGENCY PREPAREDNESS CONCERNS

Background

Hurricane Andrew caused the shutdown of Turkey Point Units 3 and 4 on August 24, 1992. Following substantial effort on the part of Florida Power and Light (FP&L) to repair storm-related damage, Unit 4 was ready for restart by late September. Unit 3 was in a refueling outage. On September 28, 1992, the NRC staff concurred in the licensee's readiness to restart Unit 4. Subsequently, the plant commenced startup and attained 30% power by October 1, 1992.

On October 1, 1992, after several conference calls with and a request from senior NRC management, FP&L senior management agreed to a shutdown of Turkey Point Unit 4. The basis for the request and subsequent shutdown was a Federal Emergency Management Agency (FEMA) concern regarding the status of offsite emergency preparedness (EP), including verification of offsite emergency planning, verification of the availability of facilities and equipment, and analysis of the unique conditions existing in the emergency planning zone (EPZ) in the wake of Hurricane Andrew. FEMA had not been given sufficient notification by the NRC of the impending Unit 4 startup and therefore had not had the opportunity to perform the necessary verification of offsite emergency preparedness. Subsequent to the plant shutdown, FEMA dispatched a team to Dade County, Florida to commence the verification activities. NRC personnel assisted the FEMA team and functioned as team members under the leadership of the FEMA team manager.

Initial analysis of the NRC's management of the offsite emergency preparedness aspects of the Turkey Point Unit 4 restart indicated a number of weaknesses or lapses in coordinating the process. Consequently, to determine root causes and lessons learned, both Region II and the Office of Nuclear Reactor Regulation (NRR) performed critical self-analyses of their respective roles in the restart process. These reports are enclosed. In addition, Jim Sniezek and I met with the key NRC headquarters and Region II personnel associated with the Turkey Point restart to explore the root causes for this breakdown in our restart process related to offsite EP.

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Discussion

Extensive onsite and offsite damage occurred at Turkey Point as a result of Hurricane Andrew. FP&L and the NRC conducted comprehensive onsite damage assessments and inspections following the storm. FP&L identified and the NRC concurred in the equipment and other items to be repaired, restored, retested, or otherwise addressed as a prerequisite to plant restart. These items formed the basis of the restart criteria and inspection plan developed by Region II. Region II formed a task force to monitor the licensee's recovery operations and activities. During the recovery period, Region II and NRR maintained close and active contact with the licensee. However, the restart process was flawed in that acknowledgement of the status of offsite emergency preparedness was lacking and sufficient coordination with FEMA had not taken place.

A variety of factors contributed to a flawed restart process resulting in premature restart concurrence and the subsequent shutdown of Unit 4. Deficiencies included poor internal and external communications and coordination, lack of a formalized restart process with attendant procedures and checklists, a lack of management and staff focus on the effect that unique offsite conditions would have on plant restart, and inadequate training/knowledge of the role of and relationship with FEMA.

Communications/Coordination

The chronologies attached to the enclosed Region II and NRR self-assessments demonstrate substantial coordination in the restart process. Nevertheless, inadequate communications and coordination at several levels were major contributors in the failure to identify the need for an offsite EP assessment. Limited coordination and inadequate communications between Region II divisions resulted in incomplete participation in the restart process by the technical division with responsibility for EP. Communications between Region II technical divisions and their counterparts in NRR were inadequate and, in part, contributed to NRR's failure to provide FEMA headquarters with current and complete information regarding the schedule and status for startup of Turkey Point. Within NRR, inadequate coordination between Projects and the Division of Radiation Protection and Emergency Preparedness (DREP) also contributed to the failure of the NRC to communicate adequately with FEMA headquarters. A more proactive posture on the part of DREP in following the progress of Turkey Point restart and in communicating with FEMA headquarters would also have been beneficial. Finally, the external communication between Region II and FEMA Region IV was inadequate in that FEMA was not contacted until after plant startup.

Restart Process

While the restart plan used by Region II for Unit 4 startup was extensive and included substantial inspection activities, it was developed in an ad hoc manner. Without a defined formalized restart process, restart criteria were developed by Region II that did not include any requirements related to offsite EP. Consequently, the need to coordinate EP assessment activities with FEMA was never identified.

Management/Staff Focus

Staff and management attention following the hurricane was appropriately focused on reactor safety. NRC activities for several weeks after the hurricane were concentrated on assessing storm-related damage, licensee actions to maintain reactor safety, and actions to restore equipment/systems necessary for plant restart. The staff did an excellent job in this regard. However, although aware of the storm effects in the surrounding area, the NRC focus at Turkey Point generally remained "inside the fence." The staff was generally not sensitive to the impact of the storm on offsite EP and consequently did not include appropriate consideration for verification of offsite EP. Additionally, as restoration at Turkey Point progressed, NRC emphasis on restart activities became more routine. Management and staff attention returned to other high priority issues. Consequently, as restart approached, senior NRC management missed an opportunity to question the restart criteria and in particular the status of offsite EP. Another contributing factor in this area was a lack of staff recognition of the uniqueness of the situation at Turkey Point and the surrounding area. This was the first nuclear power plant to suffer such a major natural disaster and the impact of the resultant devastation of the surrounding area was not fully appreciated. As a result, a special approach to match the uniqueness of the situation was not used.

Knowledge/Training

In general, the level of staff understanding of the role and responsibilities of FEMA regarding offsite EP as well as the NRC relationship with FEMA appears to be inadequate. A variety of staff, including managers, expressed a lack of knowledge regarding these issues. While training in these areas has been conducted in the past, either it had limited effectiveness or a broad enough audience was not included. An associated deficiency involves confusing inspection guidance related to EP. Some inspection procedures imply that it is an inspector's responsibility to assess aspects of offsite EP that are normally within the purview of FEMA.

Conclusion

While the post-hurricane onsite activities of the staff were comprehensive and well-coordinated, a significant deficiency in the staff approach to plant restart existed. The combined factors noted above resulted in incomplete restart criteria regarding the need for verification of the acceptability of offsite EP and in inadequate communication and coordination with FEMA.

Actions

Corrective actions are necessary to address each of the factors noted above. Additional training of headquarters and regional staff in the role and responsibilities of FEMA and the relationship of the NRC to FEMA will be conducted. Existing guidelines for plant restart (NRC Inspection Manual Chapter 0350) will be modified to incorporate lessons learned and address restart plans and criteria for plants shut down following significant events. Inspection procedures will be reviewed to ensure they properly reflect the separation of NRC and FEMA responsibilities regarding EP. In addition, although not an immediate factor in the Turkey Point restart issue, the NRC-FEMA Memorandum of Understanding will be reviewed and revised as necessary to ensure the respective roles of the NRC and FEMA are clearly defined for situations similar to this. Discussions have been held with appropriate staff and managers involved in the restart to ensure their understanding of the issues and deficiencies. This paper and the Region II and NRR self-assessments will have wide dissemination in the staff to ensure the lessons learned are thoroughly understood. I will provide the Commission with the details of these corrective actions as they are further developed.

Original Signed By:
James M. Taylor

James M. Taylor
Executive Director
for Operations

Enclosures:
As stated

cc: T. Murley PDR
S. Ebneter
SECY
OGC
OIG