March 21, 2002

Mr. J. A. Stall
Senior Vice President, Nuclear and
Chief Nuclear Officer
Florida Power and Light Company
P.O. Box 14000
Juno Beach, Florida 33408-0420

SUBJECT: TURKEY POINT UNITS 3 AND 4 - ISSUANCE OF AMENDMENTS REGARDING TECHNICAL SPECIFICATION REVISION TO PERFORM THE EMERGENCY DIESEL GENERATOR 24-HOUR FUNCTIONAL TESTING DURING POWER OPERATION (TAC NOS. MB3826 AND MB3827)

Dear Mr. Stall:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 221 to Facility Operating License No. DPR-31 and Amendment No. 215 to Facility Operating License No. DPR-41 for the Turkey Point Plant, Units Nos. 3 and 4, respectively. The amendments would revise Technical Specification Surveillance Requirement (SR) 4.8.1.1.2.g.7 related to the emergency diesel generator (EDG) testing. The amendments are issued in response to your application dated January 16, 2002, as supplemented February 7, 2002.

The amendments would permit performance of SR 4.8.1.1.2.g.7 testing during power operation as an alternative to its performance during shutdown. The revision would provide Florida Power and Light Company additional flexibility in the scheduling and testing of the EDGs.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Kahtan N. Jabbour, Senior Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-250 and 50-251

Enclosures:
1. Amendment No. 221 to DPR-31
2. Amendment No. 215 to DPR-41
3. Safety Evaluation

cc w/enclosures: See next page

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FLORIDA POWER AND LIGHT COMPANY

DOCKET NO. 50-250

TURKEY POINT PLANT UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 221
License No. DPR-31

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Florida Power and Light Company (the licensee) dated January 16, 2002, and supplemented February 7, 2002, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-31 is hereby amended to read as follows:

   (B) Technical Specifications and Environmental Protection Plan

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 221, are hereby incorporated in the license. The Environmental Protection Plan contained in Appendix B is hereby incorporated into the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days within issuance.

FOR THE NUCLEAR REGULATORY COMMISSION
/RA/

Richard P. Correia, Chief, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 21, 2002

FLORIDA POWER AND LIGHT COMPANY

DOCKET NO. 50-251

TURKEY POINT PLANT UNIT NO. 4

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 215
License No. DPR-41

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Florida Power and Light Company (the licensee) dated January 16, 2002, and supplemented February 7, 2002, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-41 is hereby amended to read as follows:

(B) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 215, are hereby incorporated in the license. The Environmental Protection Plan contained in Appendix B is hereby incorporated into the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(C) This license amendment is effective as of its date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Richard P. Correia, Chief, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 21, 2002

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 221 FACILITY OPERATING LICENSE NO. DPR-31

AMENDMENT NO. 215 FACILITY OPERATING LICENSE NO. DPR-41

DOCKET NOS. 50-250 AND 50-251

Replace the following page of the Appendix A Technical Specifications with the attached page. The revised page is identified by amendment number and contains marginal lines indicating the area of change.

Remove page	Insert page
3/4 8-7	3/4 8-7

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 221 TO FACILITY OPERATING LICENSE NO. DPR-31

AND AMENDMENT NO. 215 TO FACILITY OPERATING LICENSE NO. DPR-41

REVISION TO EMERGENCY DIESEL GENERATOR TESTING

FLORIDA POWER AND LIGHT COMPANY

TURKEY POINT UNIT NOS. 3 AND 4

DOCKET NOS. 50-250 AND 50-251

1.0 INTRODUCTION

By letter dated January 16, 2002, as supplemented February 7, 2002, Florida Power & Light Company (FPL or the licensee) proposed a revision to Turkey Point Units 3 & 4 Technical Specifications (TSs) related to the Emergency Diesel Generator (EDG) surveillance testing. The proposed revision would modify Surveillance Requirement (SR) 4.8.1.1.2.g.7 regarding the 24-hour functional test of the EDG to permit performance of this SR during power operation as an alternative to its performance during shutdown. The purpose of the revision is to provide FPL additional flexibility in the scheduling of the EDG testing and reduce plant refueling outage duration. Currently, this SR is performed during shutdown.

The licensee's February 7, 2002, supplemental information did not affect the original no significant hazards consideration determination, and did not expand the scope of the request as noticed on February 5, 2002.

2.0 BACKGROUND

General Design Criterion (GDC)-17, "Electric Power Systems," of Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50 requires, in part, that nuclear power plants have an onsite and offsite electric power system to permit the functioning of structures, systems and components important to safety. The onsite system is required to have sufficient independence, redundancy and testability to perform its safety function, assuming a single failure, and the offsite system is required to be supplied by two independent circuits. In addition, this criterion requires provisions to minimize the probability of losing electric power from the remaining electric power supplies as the result of loss of power from the unit, the offsite transmission network, or the onsite power supplies. GDC-18, "Inspection and Testing of Electric Power Systems," requires that electric power systems important to safety be designed to permit appropriate periodic inspection and testing.

As described by the licensee's January 16, 2002, application, the onsite emergency ac power source for Turkey Point Units 3 and 4 consists of four EDG sets and their associated auxiliary systems, comprising the fuel oil, lube oil, cooling water, starting air, air intake and exhaust, and automatic control circuitry. Each EDG consists of a turbocharged, two-cycle engine directly

coupled to a generator. Each generator is a 4160 volt, 3 phase, 60 hertz, ac synchronous machine. Each Unit 3 EDG is rated at 2500 kW, and each Unit 4 EDG is rated for 2874 kW.

Each EDG is connected to a separate power train, two per unit. The EDGs supply power to those electrical loads needed to achieve safe shutdown of the plant or to mitigate the consequences of an accident coincident with the loss of normal ac power supply. The EDGs are capable of assuring a safe shutdown of both units with a Loss of Offsite Power (LOOP) concurrent with a loss-of-coolant accident (LOCA) assuming a single failure. During normal plant operations, the EDGs are in standby condition and start automatically if there is a loss of voltage on their respective 4.16 kV emergency bus or upon receipt of a Safety Injection Signal (SIS).

Each EDG can supply power to its respective bus. Under specific circumstances, each EDG can supply either of the opposite unit's vital 4.16 kW buses through the station blackout cross-tie. The 4.16 kW system has the capability via the cross-tie and the swing switchgear to connect any EDG with either "A" or "B" switchgear of the opposite unit. The design provides the capability to perform this function from the control room.

The EDGs are designed to attain rated speed and voltage within 15 seconds following the receipt of a start signal. The EDG breaker closes once the EDG has reached rated speed and voltage and the appropriate buses have been stripped in accordance with the design. The control logic is such that no loads can be sequenced onto the bus following a loss of power until the EDG breaker is closed.

3.0 EVALUATION

The staff has evaluated the licensee's proposed revision to the TSs using both deterministic analysis and PRA methods, as discussed below.

4.1 Deterministic Evaluation

SR 4.8.1.1.2.g.7 currently requires, at least once per 18 months, during shutdown, verification that the diesel generator operates for at least 24 hours. During the first 2 hours of this test, the diesel generator is required to be loaded between 2550-2750 kW (Unit 3), 2950-3150 kW (Unit 4) and during the remaining 22 hours of this test, the diesel generator is required to be loaded between 2300-2500 kW (Unit 3), 2650-2850 kW (Unit 4). The generator voltage and frequency is required to be 4160 ±420 volts and 60±1.2 Hz within 15 seconds after the start signal; the steady state generator voltage and frequency is required to be maintained within these limits during this test. Within 5 minutes after completing this 24-hour test, verification that the diesel starts and accelerates to reach a generator voltage and frequency of 4160 ± 420 volts and 60 ± 1.2 Hertz within 15 seconds after the start signal. Since this test is performed with the EDG in parallel with offsite power system, the staff has required that this test be performed at shutdown to reduce the consequences of exposure to potential common cause effects associated with operating the EDG in parallel with the offsite system at power.

The licensee has proposed to perform this SR testing during power operation as an alternative to its performance during shutdown. The proposed revision would add a footnote denoted by "#" to SR 4.8.1.1.2.g.7 which will permit functional testing of the EDGs to be performed during power operation. The proposed footnote to the SR would read as follows:

This test may be performed during POWER OPERATION.

The licensee states that performing this test during power operation would help simplify and shorten the scheduling of the EDG testing and surveillance window during a refueling outage. The licensee has provided the following justification for the proposed revisions:

Turkey Point Units 3 and 4 EDGs are run monthly during power operation to satisfy monthly testing requirements. The EDG is declared inoperable for the duration of the test. The EDG system lineup with the offsite power system, for the monthly test, is identical to the lineup for the 24-hour functional test. Thus, performing the 24-hour functional test, during power operation, does not introduce a new mode of operation for the EDGs.

If an EDG is operating in the test mode and paralleled to offsite power and an SIS is initiated, the EDG breaker will trip, the EDG will continue to run and essential loads required for emergency shutdown will be sequentially loaded to the bus by the sequencer, with the power being supplied from the offsite power source. This transfer is tested once per refueling cycle in accordance with SR 4.8.1.1.2.g.10. If a LOOP occurs following the SIS, the EDG will automatically connect to the emergency bus and sequentially load as designed. Thus, the EDG operating in the test mode, will be available to perform its intended safety function.

In the event of a LOOP while an EDG is being tested and paralleled to offsite power, the licensee provided the following justification: In order for the bus to experience a LOOP while an EDG is being tested and paralleled to offsite power, both auxiliary and startup transformer breakers must be open. During unit operation, power to the safety-related buses is supplied by the auxiliary transformer. The opening of the auxiliary transformer would be the result of one the following:

- Safety Injection signal
- Main generator/main transformer lockout
- Overcurrent/bus fault
- Spurious/inadvertent operation

The opening of the auxiliary transformer breaker in response to a SIS will generate a fast bus transfer to the startup transformer. Should the bus transfer fail, the bus would experience a LOOP. The LOOP would be sensed by loss of voltage relays and all load breakers on the associated bus would then be opened by the emergency bus load sequencer. This would be followed by reclosing of the EDG breaker and loading of the safety loads by the emergency load sequencer. Thus, in this scenario of LOOP, the EDG operating in the test mode will be available to perform its intended safety function.

The main generator and main transformer lockout relays are actuated by numerous conditions. A grid generated LOOP would likely result in actuation of one or both of these lockout relays. Actuation of these lockout relays will generate a fast bus transfer to the startup transformer.

These relays also open the breaker of the EDG being tested. If the fast transfer fails or if offsite power is not available from the switchyard, the bus would experience a LOOP. The LOOP would be sensed by loss of voltage relays and all load breakers on the associated bus would then be opened by the emergency bus load sequencer. This would be followed by reclosing of the EDG breaker and loading of the safe shutdown loads by the emergency bus load sequencer. Thus, in this scenario of LOOP, the EDG operating in the test mode, will be available to perform its intended safety function.

The spurious or inadvertent opening of the auxiliary transformer breaker would not result in a fast bus transfer or tripping of the EDG breaker. The EDG being tested would attempt to provide power to all connected loads and would be subject to an overload condition. This would likely result in a relay race between the bus undervoltage protection and the EDG protective trips. If an EDG protective feature actuates, the protective device causes the EDG lockout relay to actuate. This would result in a maintained trip signal to the EDG breaker and a shutdown of the EDG engine. The lockout relay also blocks subsequent start signals until the lockout relay is manually reset. In this case, the licensee states that the operator will have to manually reset the lockout relay which can be accomplished in a few minutes. Upon reset of the lockout relay, the EDG would start as a result of the bus-stripping signal. The EDG breaker would automatically close upon achieving required voltage and frequency. The required safe shutdown loads would then be automatically loaded by the emergency bus load sequencer. Thus, in this scenario of LOOP, the EDG operating in the test mode, will be available to perform its intended safety function in a few minutes.

During the 24-hour functional test of an EDG, no other EDG is operated in parallel with the offsite system. Thus, the testing does not affect the independent safe shutdown capabilities of the remaining EDGs or the emergency buses. This restriction is controlled administratively.

The EDG 24-hour testing shall not be performed during known unstable grid conditions or during forecasted severe weather conditions. This restriction is controlled administratively.

4.2 Deterministic Summary

Based on the above, the staff concludes that the performance of the 24-hour EDG functional test during power operation is acceptable due to the following provisions, (1) the EDGs are equipped with a design feature that allows the EDGs to automatically switch from the test mode to the standby mode on the receipt of an accident signal, (2) during the 24-hour test of an EDG, no other EDG is operated in parallel with the offsite power grid, (3) assuming a LOOP and a single failure of an EDG, adequate capacity is available from the remaining EDGs to power the remaining division, and (4) availability of the station blackout cross-tie.

4.3 Probabilistic Risk Assessment Evaluation

In Regulatory Guide (RG) 1.177, the staff has identified a three-tier approach for licensees and the staff to evaluate the risk associated with the proposed TS revisions. FPL has used the three-tiered approach to evaluate the risk associated with the proposed EDG 24-hour functional testing. FPL's approach is generally consistent with RG 1.174 and RG 1.177, and the staff has evaluated in the following paragraphs whether FPL's application has met the intent of these RGs.

4.3.1 Tier 1 Evaluation - PRA capability and Insights

Tier 1 is an evaluation of the impact on plant risk of the proposed TS revision as expressed by the changes in several key parameters as discussed below.

The licensee computed the Annualized Delta Core Damage Frequency (CDF) from internal events to be 4.4 E-8/r-yr, and the Annualized Delta Large Early Release Frequency (LERF) to be 1.3 E-10/r-yr. Both of these values are very small according to the guidelines of RG 1.174, "An Approach for using Probabilistic Risk Assessment in Risk-Informed Decision on Plant-Specific Changes to the Licensing Basis."

The licensee computed the Incremental Conditional Core Damage Probability (ICCDP) to be 2.9 E-8, and the Incremental Large Early Release Probability (ICLERP) to be 6.5 E-11. These are well within the RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decision Making: Technical Specification," guideline values of 5 E-7 and 5 E-8, respectively.

All of the above values of Delta CDF, Delta LERF, ICCDP, and ICLERP are suitable for either Turkey Point Unit 3 or Unit 4, are reasonable, and are acceptable to the staff.

4.3.2 Tier 2 Evaluation - Avoidance of Risk Significant Plant Configurations

Tier 2 consists of an identification of potentially high risk configurations that could exist if equipment in addition to that associated with the proposed TS revision is rendered inoperable concurrently, or other risk-significant operational factors such as concurrent system or equipment testing are involved. The licensee's Tier 2 effort is to ensure that appropriate restrictions are placed on dominant risk-significant configurations that would be relevant to the proposed TS revisions. The Tier 2 restrictions are included in the administrative procedure of paragraph (a)(4) of the Maintenance Rule, and, for high winds, are included in the licensee's administrative procedure for severe weather preparations. Reference to the Tier 2 restrictions is also included as part of the Equipment-out-of-Service On-line Risk Monitor.

The licensee's Tier 2 restrictions currently address the availability of the startup transformers, the blackout crosstie, and offsite power with regard to EDG Planned unavailability. These Tier 2 restrictions will apply for the EDG 24-hour functional test, since the licensee considers the EDG to be unavailable during the test. In addition to the pre-determined Tier 2 restrictions, the licensee will perform assessments in accordance with the provisions of paragraph (a)(4) of the Maintenance Rule to ensure that any other risk-significant configurations are identified prior to removing an EDG from service for the EDG 24-hour functional testing. Similarly, the licensee's implementation of the Maintenance Rule configuration risk management program should ensure that the risk significance of unexpected configurations resulting from unplanned maintenance or conditions while an EDG is out-of-service (OOS) is properly evaluated.

4.3.3 Tier 3 Evaluation - Risk-Informed Plant Configuration Management

Tier 3 consists of the development of a proceduralized program to ensure that the risk impact of OOS equipment is appropriately evaluated prior to performing a maintenance activity. The

need for Tier 3, or its equivalent contained in the Maintenance Rule, derives from the difficulty of identifying all possible risk-significant configurations under Tier 2 alone that could be encountered over extended periods of plant operation.

A Tier 3 equivalent configuration risk management program has been established at Turkey Point Units 3 and 4 via the recent implementation of paragraph (a)(4) of the Maintenance Rule, Title 10, *Code of Federal Regulation* (10 CFR), Section 50.65. The program consists of a proceduralized probabilistic risk assessment-informed process to ensure that the overall impact on plant risk is properly evaluated. Implementation of paragraph (a)(4) of the Maintenance Rule via a plant administrative procedure, according to the licensee, enables appropriate actions to be taken or decisions to be made to control risk when performing on-line maintenance with a risk-informed completion time.

4.3.4 PRA Quality

The licensee states that the models used for this application were generated using the individual plant examination (IPE) models developed in response to Generic Letter (GL) 88-20, "Individual Plant Examination for Severe Accident Vulnerabilities" and associated supplements. The original development work was classified and performed as Quality Related under the FPL 10 CFR Part 50, Appendix B, Quality Assurance (QA) Program. The revision and applications of the probabilistic safety assessment (PRA) models and associated databases continue to be handled as Quality Related.

Administrative controls include written procedures and independent review, according to the licensee, of all model revisions, data updates, and risk assessments performed using PRA methods and models. Risk assessments are performed by a PRA engineer, independently reviewed by another PRA engineer, and approved by the Department Head or designee. The licensee's Reliability Risk Assessment Group (RRAG) is required to follow the FPL Nuclear Engineering Quality Instructions (QI) with written procedures derived from those QIs. Procedures, risk assessment documentation, and associated records are controlled and retained as QA records.

Since the approval of the IPE, the licensee's RRAG has maintained the PRA models consistent with the current plant configuration such that they are considered by the licensee to be living models. The licensee states that they update the PRA models for different reasons, including plant changes and modifications, procedure changes, accrual of new plant data, discovery of modeling errors, advances in PRA technology, and issuance of new industry PRA standards. The licensee states that the update process ensures that the applicable changes are implemented and documented in a timely manner so that risk analyses performed in support of plant operations reflect the current plant configuration, operating philosophy, transient history, and component failure history. The licensee's PRA maintenance and update process is described in the RRAG Standard entitled, "Probabilistic Safety Assessment Update and Maintenance Procedure." This standard, according to the licensee, defines two types of periodic updates: (1) a data analysis update, and (2) a model update. According to the licensee, the data analysis update is performed at least every 5 years. Model updates consist of either single or multiple PRA changes and are performed at a frequency dependent on the estimated impact of the accumulated changes.

4.3.5 Model Changes Since Submittal of the IPE

According to the licensee, prior to performing the risk assessment for the proposed TS revision, all design changes implemented since the last PRA update were reviewed. Changes to the PRA were not required as a result of this review. A study of significant model changes incorporated since the IPE submittal follows:

The replacement of one of the standby steam generator feedwater pumps with a diesel-driven pump, and the removal of the black-start (capable of manual self-start) diesel generators, from the model. Minor improvements were made in the modeling of instrument air, chemical and volume control, heating, ventilation, and air conditioning, ac power, component cooling water, and service water systems.

The success criteria for small LOCAs were modified to take credit for cooldown, depressurization, and use of the opposite unit's refueling water storage tank inventory for injection. The reactor coolant pump seal LOCA treatment was modified to reflect the latest research in the area.

A complete data update was performed, according to the licensee, including all plant-specific failure rates, test and maintenance unavailabilities, initiating event frequencies, and common-cause beta factors. New initiating event frequencies were calculated for all LOCAs. Although the IE frequencies for the larger LOCA sizes decreased, the net impact was an increase in the total LOCA initiating event frequency of nearly 40 percent.

The process of adding recovery actions is now automated, according to the licensee, using a recovery rule file. The rule file utilizes a manual recovery action process, in that recovery actions are added to each cutset rather than being generated from the model, but the process is automated such that all the similar cutset scenarios are recovered automatically. This automatic feature ensures uniform and complete inclusion of recovery actions throughout all of the generated cutsets, and yields more realistic and consistent results. The licensee states that the methodology for crediting the recovery of offsite power was changed to a more realistic convolution analysis technique.

4.3.6 PRA Reviews

The licensee states that, as discussed in the Turkey Point IPE submittal, multiple levels of review were used for the Turkey Point PRA. The first consisted of normal engineering quality assurance practices carried out by the organization performing the analysis. A qualified individual with knowledge of PRA methods and plant systems performed an independent review of the results for each task. This represents, according to the licensee, a detailed check of the input to the PRA model and provides a high degree of QA.

The second level of review was performed by plant personnel not directly involved, according to the licensee, with development of the PRA model. This review was performed by individuals from Operations, Technical Staff, Training, and the Independent Safety Engineering Group, who reviewed the system description notebooks and accident sequence description. This provided diverse expertise with plant design and operations knowledge to review the system descriptions for accuracy.

The third level of review was performed by PRA experts from ERIN Engineering. This review provided, according to the licensee, broad insights on techniques and results based on experience from other plant PRAs. The review team reviewed the PRA development procedures, as well as the output products.

The licensee states that comments obtained from all the review sources were incorporated, as appropriate, into work packages and the final product. Following the Turkey Point IPE submittal to the staff on June 25, 1991, the IPE was reviewed extensively by the staff and its contractors. In fact, the Turkey Point IPE received a Step 1 and a Step 2 review by the staff. The Step 2 review consisted of a team of staff representatives and contractors visiting FPL to conduct a week-long, extensive review of the Turkey Point IPE. Following these reviews, the Turkey Point IPE was revised in early 1992, and FPL received the staff Safety Evaluation Report (SER) for the Turkey Point IPE on October 15, 1992. The SER concluded that the Turkey Point IPE had met the intent of GL 88-20.

4.3.7 External Events

a. Seismic

The licensee did not perform fully quantified external event PRAs, but rather conducted a combination of seismic adequacy studies and screening analyses to characterize external event risk in the individual plant examination of external events (IPEEE). In the course of the IPEEE evaluation, the licensee used a seismic adequacy evaluation based upon GL 87-02, "Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, USI [Unresolved Safety Issue] A-46," February 19, 1987, regulatory approval to focus upon potential structural vulnerabilities. Enhancements were identified for selected tanks, among them the diesel oil storage tanks, which, after implementation, resulted in IPEEE findings of no seismic vulnerabilities. Seismic risk is further addressed under the "Comparative Information" heading.

b. Fire

Overall, the licensee has concluded (EPRI [Electric Power Research Institute]/NRC 95-507) that there are no significant fire vulnerabilities at Turkey Point Nuclear Plant, Units 3 and 4. Application of the FIVE (Fire-Induced Vulnerability Evaluation), EPRI TR-100370, April 1992, methodology screening analyses conducted as part of the IPEEE resulted in a low estimated fire risk contribution, as well as identification of important manual recovery actions. Fire risk is further addressed under the "Comparative Information" heading.

c. High Winds, Floods, and Other External Initiators (HFO)

Because of its location, hurricanes and related effects, such as storm surge, are the dominant HFO concern at Turkey Point. The IPEEE results confirmed that storm surge is the dominant HFO risk. Although no HFO vulnerabilities were identified in the IPEEE, the "Natural Emergencies" Plant Implementation Procedure (EPIP) No. 20106 was enhanced. Within this procedure, additional guidance was provided to cope with the effects of severe storms. This procedure was in place, and was cited by the licensee, as contributing significantly to the preparation and mitigation of the effects of Hurricane Andrew.

In addition, a Tier 2 restriction with respect to the present TS revision application, for high winds, is included in the administrative procedure for severe weather preparations. Therefore, the licensee has procedures in place to detect and control the potential risk from hurricanes and related effects, and the staff concludes that the increase in risk due to hurricanes, if any, is negligible.

4.3.8 Comparative Information

External event impact is also derived from a previously approved related request. In the licensee's assessment (L-2001-022), which supported the staff's August 8, 2001, Safety Evaluation Report granting Turkey Point Plant, Units 3 and 4, 14-day EDG Allowed Outage Times, the internal fire ICCDP was estimated to be 1.0E-7 and the ICLERP to be 1.0E-8. The present application is for 24-hour EDG functional testing, and should thus have an upper bound ICCDP of 7.1 E-9 and an upper bound ICLERP of 7.1 E-10, both very small and within the RG 1.177 guideline values.

Turkey Point is located in a relatively benign seismic area. The seismic hazard estimates in NUREG-1488 indicate that the frequency of earthquakes greater than the minimum reported level (0.05g) is about 1.2E-4/year. Therefore the probability of having an earthquake during the 24-hour test is about 3E-7 and the risk from seismic events during the test is negligible.

The staff concludes from its IPEEE safety evaluation report and the Tier 2 portion of the licensee's submittal, coupled with the above discussion of fire risk, that the external events results were adequately complete and reasonable considering the design and operation of the plant. The staff concludes that the aspects of seismic events, fires, and high winds, and storm surge were adequately addressed, and other external events were not of substantial consequence.

4.4 Probabilistic Summary

The staff concludes that the impact on plant risk of allowing the Turkey Point Units 3 and 4 EDGs to undergo 24-hour testing at power is very small for both internal and external events. Therefore, the staff finds that the 24-hour EDG functional testing at power is acceptable.

5.0 STATE CONSULTATION

Based upon a letter dated March 8, 1991, from Mary E. Clark of the State of Florida, Department of Health and Rehabilitative Services, to Deborah A. Miller, Licensing Assistant, U.S. Nuclear Regulatory Commission, the State of Florida does not desire notification of issuance of license amendments.

6.0 ENVIRONMENTAL CONSIDERATION

These amendments involve a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and a revision to a surveillance requirement. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the

amendments involve no significant hazards consideration, and there has been no public comment on such finding (67 FR 5328). Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

7.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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TURKEY POINT PLANT

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