

August 20, 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 UNIT 4 - ISSUANCE OF EXIGENT TECHNICAL
SPECIFICATION AMENDMENT CONCERNING CONTROL ROD POSITION
INDICATION SYSTEM (TAC NO. MB5703)

Dear Mr. Stall:

The Commission has issued the enclosed Amendment No. 216 to Facility Operating License No. DPR-41 for the Turkey Point Plant Unit 4. This amendment consists of a change to the Technical Specifications (TSs) in response to Florida Power and Light Company's application dated July 29, 2002, as supplemented by letters dated August 14 and August 16, 2002. Pursuant to Title 10, *Code of Federal Regulations* (10 CFR) Section 50.91(a)(6), you requested that your application be processed as an exigent TS amendment.

The amendment modifies TSs 3/4.1.3.1, "Movable Control Assemblies," 3/4.1.3.2, "Position Indication Systems - Operating," and 3/4.1.3.5, "Shutdown Rod Insertion Limit," to allow the use of an alternate method of determining rod position for the control rod C-9 until the end of Cycle 20 or until repairs can be conducted on the Analog Rod Position Indication System at the next outage of sufficient duration, whichever comes first.

A copy of our safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

/RA/

Eva A. Brown, Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-251

Enclosures: 1. Amendment No. 216 to
License No. DPR-41
2. Safety Evaluation

cc w/encls: See next page

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FLORIDA POWER AND LIGHT COMPANY

DOCKET NO. 50-251

TURKEY POINT PLANT UNIT NO. 4

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 216
License No. DPR-41

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application for amendment by Florida Power and Light Company (the licensee) dated July 29, 2002, as supplemented by letters dated August 14 and August 16, 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 set forth in 10 CFR Chapter I;
 - 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:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 216, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Kahtan N. Jabbour, Acting 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: August 20, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 216

FACILITY OPERATING LICENSE NO. DPR-41

DOCKET NO. 50-251

Replace the following pages of the Appendix A, Technical Specifications, with the attached revised pages as indicated. The revised pages are identified by amendment numbers and contains marginal lines indicating the area of change.

Remove Pages

3/4 1-17

3/4 1-18

3/4 1-20

3/4 1-21

3/4 1-25

Insert Pages

3/4 1-17

3/4 1-18

3/4 1-20

3/4 1-21

3/4 1-25

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 216 TO FACILITY OPERATING

LICENSE NO. DPR-41

FLORIDA POWER AND LIGHT COMPANY

TURKEY POINT PLANT UNIT 4

DOCKET NO. 50-251

1.0 INTRODUCTION

By letter dated July 29, 2002, as supplemented by letters dated August 14 and August 16, 2002, Florida Power and Light (FPL) Company requested exigent approval of changes to the Technical Specifications (TSs) for Turkey Point Unit 4. This revision is being requested due to an inoperable control Rod Position Indicator (RPI) associated with control rod C-9 in shutdown bank A. These proposed changes will modify TS 3/4.1.3.1, "Movable Control Assemblies," 3/4.1.3.2, "Position Indication Systems - Operating," and 3/4.1.3.5, "Shutdown Rod Insertion Limit," to allow the use of an alternate method of determining rod position for the control rod C-9 with the RPI. The licensee indicated its intention that repairs would be completed at the earliest opportunity, when Unit 4 enters Mode 5 and the outage is of sufficient duration to affect the repairs, but no later than the Unit 4 Cycle 21 refueling outage in October 2003.

The alternate method to be used will monitor the stationary gripper coil of the C-9 control rod drive mechanism (CRDM). The proposed change is expected to provide adequate controls to ensure that the rod position is known and any control rod incident is detectable. These changes would reduce the frequency of flux mapping to determine the position of control rod C-9 while the rod position indication system for this control rod is inoperable.

Turkey Point Unit 4 TS Action Statement a.1 of TS 3.1.3.2 requires that, with one analog rod position indicator inoperable, either: (1) the position of the non-indicating rod be determined indirectly by the movable incore detectors once per 8 hours and within 1 hour of any motion that exceeds 24 steps or (2) thermal power be reduced to less than 75 percent within 8 hours. Currently FPL is using Option (1).

The proposed TS changes would replace the requirement for use of movable incore detectors and allow determination of the position of rod C-9 once per 8 hours by an alternate method other than the Analog Rod Position Indication system until repair of the indication system is completed. Surveillance Requirements (SRs) 4.1.3.1.1, 4.1.3.2.1 and 4.1.3.2.2 would also be modified to reflect the alternate method of determining the position of rod C-9 until repair of the indication system is completed.

Enclosure

2.0 BACKGROUND

TS 3.1.3.2 currently requires the RPI System to be operable and capable of determining the respective actual and demanded shutdown and control rod positions. With a maximum of one RPI per bank inoperable, the TS ACTION statement requires that the licensee determine the position of the non-indication rod(s) indirectly by using the movable incore detectors once every 8 hours and within 1 hour for any movement of the non-indicating rod which exceeds 24 steps in one direction. The licensee also has the option to reduce power to 75 percent of rated thermal power.

The proposed change would permit the licensee to monitor the stationary gripper coil of the CRDM for control rod C-9 in lieu of the RPI system, thus partially restoring the ability to determine RPI for control rod C9. This alternate method would be used for control rod C-9 RPI in TS Sections 3.1.3.1, 3.1.3.2, and 3.1.3.5. The licensee would be required to verify every 8 hours that the gripper coil has not changed state. The absence of movement of the gripper coil would indicate that the control rod had not moved.

Additionally, the proposed change will add a footnote to TSs 3/4.1.3.1, 3/4.1.3.2 and 3/4.3.1.3.5, which states that during Cycle 20 the position of control rod C-9 will be determined indirectly by an alternate method, other than the Analog Rod Position Indication system, until the repair of the indication system for this rod is completed. Additionally, a footnote stating that the use of the alternate method for control rod C-9 does not require the 4-hour comparison of demand versus actual position will be added to SRs 4.1.3.1.1 and 4.1.3.2.1. This change would not affect the existing TS surveillance requirements to determine control rod C-9's position by flux map every 31 days, but would require the licensee to determine control rod C-9's position using the movable incore system at least once every 31 days. However, it would relieve the licensee from performing this determination every 8 hours as the existing TSs require.

3.0 EVALUATION

According to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix A, General Design Criteria 13, Instrumentation and Controls, instrumentation to monitor variables and systems over their operating ranges during normal operation, anticipated operational occurrences, and accident conditions must be OPERABLE. TS 3.1.3.2 requires OPERABILITY of the control rod position indicators to determine control rod positions and, thereby, ensure compliance with the control rod alignment and insertion limits. The OPERABILITY, including position indication, of the shutdown and control rods is an initial assumption in all safety analyses that assume rod insertion upon reactor trip.

The objectives of the control rod system are to ensure that control rod alignment and insertion limits are maintained, acceptable power distributions as well as minimum shutdown margins are maintained, and that the potential effects of rod misalignment on associated accidents are limited.

The control rod in question is C-9, which is a shutdown bank A rod. This control rod is required to be fully withdrawn when the reactor is critical. In order to evaluate the proposed TS changes, the following conditions were considered: rod drop or rod misalignment during power operation,

rod drop or rod misalignment during reactor startup, and a reactor trip. These are the only conditions that need to be considered since control rod C-9 will be fully withdrawn at all other times that the TS is applicable.

A full rod drop of control rod C-9 during power operation would be detectable by indications other than the position indication system. Such an event would cause an urgent failure alarm and a noticeable change in the core parameters as evident by the response of the excore detectors. Thus, the status of control rod C-9's individual rod position indication would not affect the operator actions. Similarly, a rod misalignment, greater than that analyzed for, would also be detected by an urgent failure alarm and the response by the excore detectors. Therefore, the likelihood of an undetected rod drop or misalignment is considered negligible.

In addition to the analysis provided in the submittal of July 29, 2002, FPL has revised the Shutdown Margin Calculation 0-OP-028.2, to ensure that shutdown margin limits continue to be met for the remainder of this cycle. The use of the alternate methodology requires that the pertinent procedures are modified to account for the inoperable RPI. FPL has indicated that additional training, including operator training with the instrumentation required for the alternate methodology, will be provided to the reactor operators and technicians to assure familiarity with new plant conditions and modified procedures.

FPL has determined that the objectives stated above can be met with an inoperable RPI in a shutdown bank without subjecting the movable incore system to unnecessary additional wear. FPL stated in its submittal that it has installed a recorder to track parameters of the stationary gripper coil of the CRDM on the non-indicating rod. FPL also intends to verify every 8 hours that the coil has not changed state. This 8-hour surveillance period is consistent with the current compensatory operational requirements for control rod C-9 position determination.

The NRC staff has reviewed all the material submitted and performed an assessment of the conditions. The staff agrees that personnel safety concerns and maintaining personnel dose as low as reasonably achievable prevent safe completion of repairs with the reactor at power and that constant use of the incore detector system is not advisable. The proposed TS changes provide adequate controls to ensure that the rod position is known and that any rod misalignment is detectable. Since the increase in the likelihood of an undetected rod drop or misalignment is determined to be negligible, the integrity of the accident analysis is maintained.

The staff concurs with the licensee's analysis and conclusions regarding the use of an alternate method to monitor the RPI associated with control rod C-9. Based on the licensee's submittal and additional information provided, the staff acknowledges the necessity for a repair of the installed RPI for control rod C9 as soon as reasonably achievable and, therefore, concurs that the performance of the repair be conducted at the next outage of sufficient duration or during the upcoming refueling outage, whichever comes first. Based on the above, the staff concludes that the proposed TS changes, applicable to control rod C-9 only for the remainder of Cycle 20, are acceptable.

4.0 STATEMENT OF EXIGENT CIRCUMSTANCES

The Commission's regulation, as stated in 10 CFR 50.91, provides special exceptions for the issuance of amendments when the usual 30-day public notice cannot be met. One type of

special exception is an exigency. An exigency exists when the staff and the licensee need to act quickly and time does not permit the staff to publish a *Federal Register* notice allowing 30 days for prior public comment, and the staff also determines that the amendment involves no significant hazards consideration. In accordance with 10 CFR 50.91(a)(6)(i)(A), the staff issued a *Federal Register* notice providing an opportunity for hearing and allowing at least two weeks from the date of the notice for prior public comment on August 2, 2002 (67 FR 50743). No comments were received.

In its submittal, the licensee discussed the need for an exigent review of the proposed license amendment. This request was submitted on an exigent basis as a result of the unanticipated failure of the rod position indication for Rod C-9. The existing compensatory measures require exercising the movable incore detectors every 8 hours (90 times a month) which also may cause excessive wear on the incore detection system. Therefore, the licensee requested NRC review and approval of this License Amendment on an exigent basis.

On the basis of the above discussion, the staff has determined that exigent circumstances exist and that the licensee used its best efforts to make a timely application and did not cause the exigent situation.

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 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission's regulations in 10 CFR 50.92 state that the Commission may make a final determination that a license amendment involves no significant hazards consideration if operation of the facility, in accordance with the amendment, would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated, or (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety. As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue. The staff's analysis is set forth below.

The proposed amendment would modify several sections of the TSs to allow the use of an alternate method of determining rod position for the control rod C-9 until the end of Cycle 20 or until repairs can be conducted on the Analog Rod Position Indication System at the next outage of sufficient duration, whichever comes first.

(1) This change does not significantly increase the probability of an accident previously evaluated because the proposed change does not require any change to plant systems, structures, or components. The change does not increase the consequences of an accident because the change only provides an alternative method of monitoring shutdown rod position and does not change the assumption or results of any previously evaluated accident.

(2) The change provides only an alternative method of determining the position of one shutdown rod. No new accident initiators are introduced by the proposed alternative method of

performing rod position verification. The proposed change does not affect the reactor

protection system nor the reactor control system; therefore, no new failure modes are created that would cause a new or different kind of accident from any accident previously evaluated.

(3) The proposed change provides only an alternative method of determining the position of one shutdown rod. No new accident initiators are introduced by the proposed alternative manner of performing rod position verification. The proposed change does not affect the reactor protection system or the reactor control system. Hence, no new failure modes are created that would cause a new or different kind of accident from any accident previously evaluated. Therefore, the change does not involve a significant reduction in a margin of safety.

Based on the above considerations, the NRC staff concludes that the amendment meets the three criteria of 10 CFR 50.92. Therefore, the staff has made a final determination that the proposed amendment does not involve a significant hazards consideration.

7.0 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 50473). 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.

8.0 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.

Principal Contributor: A. Attard

Date: August 20, 2002