

Mr. T. F. Plunkett
 President - Nuclear Division
 Florida Power and Light Company
 P.O. Box 14000
 Juno Beach, Florida 33408-0420

October 4, 1999

SUBJECT: ST. LUCIE, UNIT 2 - ISSUANCE OF AMENDMENT REGARDING BORON
 DILUTION INTERIM LIMITING CONDITION FOR OPERATION
 (TAC NO. MA5108)

Dear Mr. Plunkett:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 104 to Facility Operating License No. NPF-16 for the St. Lucie Plant, Unit No. 2. This amendment consists of changes to the Technical Specifications in response to your application dated February 23, 1999.

This amendment removes redundant boron concentration monitoring requirements specified for Modes 3 through 6 contained in TS 3/4.1.2.9, "Reactivity Control Systems-Boron Dilution." This is accomplished by deleting TS 3/4.1.2.9. The NRC staff finds this request acceptable.

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,
 Original signed by:
 William C. Gleaves, Project Manager, Section 2
 Project Directorate II
 Division of Licensing Project Management
 Office of Nuclear Reactor Regulation

Docket No. 50-389

Enclosures:

1. Amendment No. 104 to NPF-16
2. Safety Evaluation

cc w/enclosures: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 4, 1999

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President - Nuclear Division
Florida Power and Light Company
P.O. Box 14000
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Sincerely,

A handwritten signature in black ink, appearing to read "Wm C Gleaves".

William C. Gleaves, Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

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UNITED STATES
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WASHINGTON, D.C. 20555-0001

FLORIDA POWER & LIGHT COMPANY

ORLANDO UTILITIES COMMISSION OF

THE CITY OF ORLANDO, FLORIDA

AND

FLORIDA MUNICIPAL POWER AGENCY

DOCKET NO. 50-389

ST. LUCIE PLANT UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 104
License No. NPF-16

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Florida Power & Light Company, et al. (the licensee), dated February 23, 1999, 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, Facility Operating License No. NPF-16 is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and by amending paragraph 2.C.2 to read as follows:

2. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. **104** , 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



Sheri R. Peterson, 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: **October 4, 1999**

ATTACHMENT TO LICENSE AMENDMENT NO. 104

TO FACILITY OPERATING LICENSE NO. NPF-16

DOCKET NO. 50-389

Replace the following pages of the Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain vertical lines indicating the area of change.

Remove Pages

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List of Tables page XXIII

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**Page 3/4 1-17 (Amendment No. 8) has been deleted from the Technical Specifications.
The next page is 3/4 1-18.**

REACTIVITY CONTROL SYSTEMS

BASES

The contained water volume limits includes allowance for water not available because of discharge line location and other physical characteristics.

The OPERABILITY of one boron injection system during REFUELING ensures that this system is available for reactivity control while in MODE 6.

The limits on contained water volume and boron concentration of the RWT also ensure a pH value of between 7.0 and 8.0 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components.

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

The specifications of this section ensure that (1) acceptable power distribution limits are maintained, (2) the minimum SHUTDOWN MARGIN is maintained, and (3) the potential effects of CEA misalignments are limited to acceptable levels.

The ACTION statements which permit limited variations from the basic requirements are accompanied by additional restrictions which ensure that the original design criteria are met.

The ACTION statements applicable to a stuck or untrippable CEA, to two or more inoperable CEAs and to a large misalignment (greater than or equal to 15 inches) of two or more CEAs, require a prompt shutdown of the reactor since either of these conditions may be indicative of a possible loss of mechanical functional capability of the CEAs and in the event of a stuck or untrippable CEA, the loss of SHUTDOWN MARGIN.

For small misalignments (less than 15 inches) of the CEAs, there is (1) a small effect on the time-dependent long-term power distributions relative to those used in generating LCOs and LSSS setpoints, (2) a small effect on the available SHUTDOWN MARGIN, and (3) a small effect on the ejected CEA worth used in the safety analysis. Therefore, the ACTION statement associated with small misalignments of CEAs permits a 1-hour time interval during which attempts may be made to restore the CEA to within its alignment requirements. The 1-hour time limit is sufficient to (1) identify causes of a misaligned CEA, (2) take appropriate corrective action to realign the CEAs, and (3) minimize the effects of xenon redistribution.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 104 TO FACILITY OPERATING LICENSE NO. NPF-16

FLORIDA POWER AND LIGHT COMPANY, ET AL.

ST. LUCIE PLANT, UNIT NO. 2

DOCKET NO. 50-389

1.0 INTRODUCTION

By letter dated February 23, 1999, Florida Power & Light Company (FPL) requested changes to the St. Lucie, Unit 2, Technical Specifications (TS). The proposed changes would remove the boron concentration monitoring requirements specified for Modes 3 through 6 by deleting TS 3/4.1.2.9, "Reactivity Control Systems-Boron Dilution." The requirements of this limiting condition for operation (LCO) evolved from interim measures proposed by FPL to detect an unplanned boron dilution event pending installation and complete functionality of a boron dilution alarm system (BDAS).

2.0 EVALUATION

TS 3/4.1.2.9 requires the reactor coolant system (RCS) boron concentration to be monitored during operational Modes 3 through 6 by use of the boronmeter and/or RCS sampling at intervals that are dependent upon the operational mode and the number of operable charging pumps. This specification is designed to provide diverse and redundant indications of an inadvertent boron dilution event to assure the availability of a detection capability that allows sufficient time for manual termination of the dilution event by the operator before a complete loss of shutdown margin occurs.

The BDAS is now completely functional at St. Lucie, Unit 2, and is described in Section 7.7.1.1.11 of the plant updated final safety analysis report. It is an on-line microcomputer-based system, which receives and monitors two neutron flux signals (one per BDAS channel) processed from the startup channels of nuclear instrumentation. Each channel generates an alarm signal, which actuates the plant annunciation system when the neutron flux signal is equal to or greater than a calculated alarm setpoint. The alarm setpoint is based on a minimum analysis setpoint ratio determined by evaluation of the postulated inadvertent boron dilution event and includes an allowance for measurement uncertainties. The analysis setpoint ratio is defined as the ratio of the startup channel flux corresponding to the alarm setpoint compared to the startup channel flux prior to the initiation of a boron dilution event.

The BDAS alarms satisfy the acceptance criteria for minimum time from alarm annunciation to complete loss of shutdown margin (15 minutes for Modes 3 through 5 and 30 minutes for Mode 6) which are specified in Section 15.4.6 of the U.S. Nuclear Regulatory Commission (NRC) Standard Review Plan (SRP) for events that require operator action to terminate the

transient. In addition, the BDAS setpoint adequacy is verified as part of each core reload evaluation. Plant operating procedures will be revised to contain requirements equivalent to those in deleted TS 3.1.2.9 as compensatory measures to be implemented in the event the BDAS becomes inoperable when in Modes 3 through 6. Based on the above, the staff finds the request to remove the boron concentration monitoring requirements specified for Modes 3 through 6 in TS 3/4.1.2.9 acceptable.

3.0 STAFF CONCLUSION

Based on the fact that the BDAS is completely functional at St. Lucie, Unit 2, and is capable of detecting an inadvertent boron dilution event in operational Modes 3 through 6 and providing alarms that satisfy the minimum time requirements specified in SRP Section 15.4.6, we conclude that TS 3/4.1.2.9 is redundant and may be deleted. The St. Lucie, Unit 2, plant operating procedures will include requirements equivalent to those previously stated in TS 3/4.1.2.9 as compensatory measures to be implemented in the event the BDAS becomes inoperable when in Modes 3 through 6. The staff considers this a low-level commitment that is subject to the requirements stated in 10 CFR 50.59.

4.0 STATE CONSULTATION

By Letter dated March 8, 1991, Mary E. Clark of the State of Florida, Department of Health and Rehabilitative Services, informed Deborah A. Miller, Licensing Assistant, U.S. NRC, that the State of Florida does not desire notification of issuance of license amendments. Thus, the State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

These amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 (64 FR 46440). 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 these amendments.

6.0 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: L. Kopp, SRXB

Date: October 4, 1999

Mr. T. F. Plunkett
Florida Power and Light Company

ST. LUCIE PLANT

cc:
Senior Resident Inspector
St. Lucie Plant
U.S. Nuclear Regulatory Commission
P.O. Box 6090
Jensen Beach, Florida 34957

Mr. R. G. West
Plant General Manager
St. Lucie Nuclear Plant
6351 South Ocean Drive
Jensen Beach, Florida 34957

Joe Myers, Director
Division of Emergency Preparedness
Department of Community Affairs
2740 Centerview Drive
Tallahassee, Florida 32399-2100

E. J. Weinkam
Licensing Manager
St. Lucie Nuclear Plant
6351 South Ocean Drive
Jensen Beach, Florida 34957

M. S. Ross, Attorney
Florida Power & Light Company
P.O. Box 14000
Juno Beach, FL 33408-0420

Mr. John Gianfrancesco
Manager, Administrative Support
and Special Projects
P.O. Box 14000
Juno Beach, FL 33408-0420

Mr. Douglas Anderson
County Administrator
St. Lucie County
2300 Virginia Avenue
Fort Pierce, Florida 34982

Mr. Rajiv S. Kundalkar
Vice President - Nuclear Engineering
Florida Power & Light Company
P.O. Box 14000
Juno Beach, FL 33408-0420

Mr. William A. Passetti, Chief
Department of Health
Bureau of Radiation Control
2020 Capital Circle, SE, Bin #C21
Tallahassee, Florida 32399-1741

Mr. J. Kammel
Radiological Emergency
Planning Administrator
Department of Public Safety
6000 SE. Tower Drive
Stuart, Florida 34997

J. A. Stall, Site Vice President
St. Lucie Nuclear Plant
6351 South Ocean Drive
Jensen Beach, Florida 34957

Mr. T. F. Plunkett
Florida Power and Light Company

ST. LUCIE PLANT

cc:

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St. Lucie Plant
U.S. Nuclear Regulatory Commission
P.O. Box 6090
Jensen Beach, Florida 34957

Mr. R. G. West
Plant General Manager
St. Lucie Nuclear Plant
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Jensen Beach, Florida 34957

Joe Myers, Director
Division of Emergency Preparedness
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Licensing Manager
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Jensen Beach, Florida 34957

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Florida Power & Light Company
P.O. Box 14000
Juno Beach, FL 33408-0420

Mr. John Gianfrancesco
Manager, Administrative Support
and Special Projects
P.O. Box 14000
Juno Beach, FL 33408-0420

Mr. Douglas Anderson
County Administrator
St. Lucie County
2300 Virginia Avenue
Fort Pierce, Florida 34982

Mr. Rajiv S. Kundalkar
Vice President - Nuclear Engineering
Florida Power & Light Company
P.O. Box 14000
Juno Beach, FL 33408-0420

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Bureau of Radiation Control
2020 Capital Circle, SE, Bin #C21
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