

November 19, 2001

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: ST. LUCIE UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS REGARDING
REACTIVITY/BORON CONCENTRATION CHANGES
(TAC NOS. MB2804 AND MB2805)

Dear Mr. Stall:

The Commission has issued the enclosed Amendment Nos. 179 and 122 to Facility Operating License Nos. DPR-67 and NPF-16 for the St. Lucie Plant, Units 1 and 2. These amendments consist of changes to the Technical Specifications in response to your application dated August 22, 2001.

These amendments will allow small, controlled, safe insertions of positive reactivity while in shutdown modes.

The Bases for the revised TS sections should be revised in accordance with the St. Lucie TS Bases Control Program.

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/

Brendan T. Moroney, Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-335
and 50-389

Enclosures:

1. Amendment No. 179 to DPR-67
2. Amendment No. 122 to NPF-16
3. Safety Evaluation

cc w/enclosures: See next page

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FLORIDA POWER & LIGHT COMPANY

DOCKET NO. 50-335

ST. LUCIE PLANT UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 179
License No. DPR-67

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Florida Power & Light Company (the licensee), dated August 22, 2001, 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. DPR-67 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. 179, 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 of 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: November 19, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 179

TO FACILITY OPERATING LICENSE NO. DPR-67

DOCKET NO. 50-335

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

Remove Pages

3/4 1-8
3/4 1-12
3/4 1-14
3/4 1-16
3/4 4-1a
3/4 4-1b
3/4 4-1d
3/4 4-1e
3/4 8-7
3/4 9-2
3/4 9-8
3/4 9-8a

Insert Pages

3/4 1-8
3/4 1-12
3/4 1-14
3/4 1-16
3/4 4-1a
3/4 4-1b
3/4 4-1d
3/4 4-1e
3/4 8-7
3/4 9-2
3/4 9-8
3/4 9-8a

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. 122
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 August 22, 2001, 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. 122, 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 of 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: November 19, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 122

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 marginal lines indicating the area of change.

Remove Pages

3/4 1-7
3/4 1-9
3/4 1-11
3/4 1-13
3/4 3-5
3/4 4-2
3/4 4-3
3/4 4-5
3/4 4-6
3/4 7-17
3/4 8-9
3/4 8-13
3/4 8-16
3/4 9-2
3/4 9-8
3/4 9-9

Insert Pages

3/4 1-7
3/4 1-9
3/4 1-11
3/4 1-13
3/4 3-5
3/4 4-2
3/4 4-3
3/4 4-5
3/4 4-6
3/4 7-17
3/4 8-9
3/4 8-13
3/4 8-16
3/4 9-2
3/4 9-8
3/4 9-9

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 179 AND 122

TO FACILITY OPERATING LICENSES NOS. DPR-67 AND NPF-16

FLORIDA POWER AND LIGHT COMPANY, ET AL.

ST. LUCIE PLANT, UNITS NOS. 1 AND 2

DOCKET NOS. 50-335 AND 50-389

1.0 INTRODUCTION

By letter dated August 22, 2001, Florida Power and Light Company, et al. (the licensee), requested amendments to Operating Licenses DPR-67 and NPF-16 for St. Lucie Unit 1 and 2, respectively. The proposed amendments would revise the St. Lucie Units 1 and 2 Technical Specifications (TS) relating to positive reactivity additions while in shutdown modes. The proposed changes would clarify TS involving positive reactivity additions to the shutdown reactor in shutdown modes, and would allow small, controlled, safe insertions of positive reactivity while maintaining substantial shutdown margin.

2.0 BACKGROUND

The industry and the U.S. Nuclear Regulatory Commission (NRC) staff have been working through the TS Task Force (TSTF) to develop generic changes for Standard TS (STS), known as TSTFs. Once approved by the NRC, licensees can use the TSTFs as models in amendment requests.

The proposed changes conform closely to TSTF-286, Revision 2. TSTF-286, Revision 2, revises most of the actions requiring licensees to "Suspend operations involving positive reactivity additions" to allow minimum reactivity additions due to temperature fluctuations or operations, which are necessary to maintain fluid inventory within the required shutdown margin (SDM) or refueling boron concentration, as applicable. The NRC approved TSTF-286, Revision 2 by letter dated July 6, 2000.

TSTFs are based on the STS, which are contained in NUREG-1432 for Combustion Engineering plants. St. Lucie Units 1 and 2 have not adopted the STS, therefore, there are administrative differences between the wording and format that the licensee proposes for use and the wording and format for the TS changes approved by TSTF-286, Revision 2. The licensee provided plant-specific differences between the proposed changes and TSTF-286, Revision 2, in its submittal.

3.0 EVALUATION

TSTF-286, Revision 2, revises the following STS provisions: (1) actions that require licensees to “Suspend operations involving positive reactivity additions,” (2) various Notes precluding reduction in boron concentration, and (3) Reactor Coolant System (RCS) isolated loop startup limit, which requires the isolated loop to be at a boron concentration greater than or equal to the operating loop(s). Instead, limits are placed on the introduction into the RCS of reactivity more positive than that required to meet the required SDM or refueling boron concentrations, as applicable.

The actions that preclude positive reactivity changes or reduction in boron concentration, or both, are intended to ensure that no power increases occur and that licensees maintain SDM. During conditions in which actions that require licensees to “Suspend operations involving positive reactivity additions” may be required by current TS, various unit operations must be continued. RCS inventory must be maintained and RCS temperature must be controlled. These activities necessarily involve addition to the RCS of water at a temperature different than that of the RCS, may involve slight RCS temperature changes, and may involve inventory makeup from sources that are at boron concentrations less than RCS concentration. These activities constitute small positive reactivity changes that are precluded by the current TS. However, these activities should not be precluded if the worst-case overall effect on the core would still assure SDM (or the required refueling boron concentration) is maintained. Therefore, the proposed changes provide the flexibility necessary to provide for continued safe reactor operations, while also limiting any potential for excess positive reactivity addition.

Discussion with the licensee during a conference call on October 4, 2001, provided the staff assurance that the licensee was maintaining the initial assumptions of the most limiting accident analysis and that any positive reactivity addition resulting from the actions allowed by TSTF-286, Revision 2 remain bounded by the Final Safety Analysis Report accident analyses, specifically the Inadvertent Boron Dilution and Slow Positive Reactivity Insertion events. The licensee stated that plant systems and procedures, which are already in place, properly monitor the overall effect on core reactivity and the required SDM, and maintain the required refueling boron concentration.

In its submittal, the licensee stated the same justification for St. Lucie Units 1 and 2 as that provided by the NRC staff for approving TSTF-286, Revision 2, and stated above. Because the TS for St. Lucie Units 1 and 2 do not conform with STS, there are administrative differences between the wording and format the licensee proposed and the exact wording and format for the TS changes approved in TSTF-286, Revision 2. The proposed TS changes are evaluated below.

3.1 TS Changes

3.1.1 For St. Lucie Units 1 and 2, TS 3.1.2.1, Boration Systems, Flow Paths - Shutdown, TS 3.1.2.3, Charging Pumps - Shutdown, TS 3.1.2.5, Boric Acid [Makeup] Pumps - Shutdown, and TS 3.1.2.7, Borated Water Sources - Shutdown, currently prohibit the addition of any positive reactivity to the reactor while in shutdown Modes 5 and 6. Small changes in RCS temperature are unavoidable and as long as the licensee maintains the required SDM during the temperature variations, any positive reactivity additions will be limited to acceptable levels.

In order to maintain consistency with the existing TS, the term positive reactivity changes will be annotated by an asterisk instead of a note, with the asterisk wording comparable to that used for Insert 2 of TSTF-286, Revision 2. The licensee is proposing a plant-specific change because NUREG-1432 has no equivalent TS for boration sources and flowpaths. The proposed wording for the TS change is consistent with the wording approved for San Onofre Units 2 and 3 for license Amendments 175 and 166. The staff has reviewed the proposed changes and finds that they meet the intent of TSTF-286, Revision 2, and are acceptable.

3.1.2 For St. Lucie Unit 2 only, TS Table 3.3-1, Reactor Protection Instrumentation, Action 3 for the wide range neutron flux monitor shutdown requirements currently prohibits any positive reactivity changes to the shutdown reactor. This TS will be modified by a note allowing controlled plant operations that may result in limited reactivity additions (e.g., temperature or boron fluctuations associated with RCS inventory management or temperature control) provided the licensee has accounted for the temperature or inventory changes in the calculated SDM. In order to maintain consistency with the existing TS, the term positive reactivity changes will be annotated by an asterisk instead of a note, with the asterisk wording identical to that used for Insert 1 of TSTF-286, Revision 2. The staff has determined that this change meets the intent of TSTF-286, Revision 2, associated with STS 3.3.13, [Logarithmic] Power Monitoring Channels, and finds this change to be acceptable. [It should be noted that the licensee's submittal for this request erroneously referenced STS 3.3.9, Control Room Isolation Signal (CRIS) and 3.3.10, Shield Building Filtration Actuation Signal with regard to this TS change. During the conference call on October 4, 2001, this was recognized as an administrative error, which did not affect the technical content of the submittal.] This proposed change is applicable to St. Lucie Unit 2 only, because the Unit 1 TS do not contain comparable requirements.

3.1.3 For St. Lucie Unit 2 only, TS 3.7.7, Control Room Emergency Air Cleanup System (CREACS), currently prohibits any positive reactivity additions to the shutdown reactor if both trains of CREACS are inoperable in Modes 5 or 6. This TS would be modified by a note allowing controlled plant operations that may result in limited reactivity additions (e.g., temperature or boron fluctuations associated with RCS inventory management or temperature control) provided the licensee has accounted for these variations in the calculated SDM. In order to maintain consistency with the existing TS, the term positive reactivity additions will be annotated by an asterisk instead of a note, with the asterisk wording comparable to that used for Insert 1 of TSTF-286, Revision 2. TSTF-286, Revision 2, places this change in STS 3.3.8, CRIS (analog) and STS 3.3.9, CRIS (digital); however, for St. Lucie Unit 2, corresponding positive reactivity changes are discussed in TS 3.7.7 for the CREACS. This change applies to St. Lucie Unit 2 only because Unit 1 TS 3.7.7 for the Control Room Emergency Ventilation system does not contain comparable limitations. The staff has determined that this proposed change meets the intent of TSTF-286, Revision 2, associated with STS 3.3.8 and STS 3.3.9, CRIS (analog and digital) and finds this change to be acceptable.

3.1.4 For St. Lucie Units 1 and 2, TS 3.4.1.2, Reactor Coolant System - Hot Standby, TS 3.4.1.3, Reactor Coolant System - Hot Shutdown, TS 3.4.1.4.1, Reactor Coolant System - Cold Shutdown - Loops Filled, TS 3.4.1.4.2, Reactor Coolant System - Cold Shutdown - Loops Not Filled, TS 3.9.8.1, Refueling Operations - Shutdown Cooling and Coolant Circulation - High Water Level, and TS 3.9.8.2, Refueling Operations - Shutdown Cooling and Coolant Circulation - Low Water Level, currently prohibit operations that would cause any reduction of the RCS boron Concentration. These TS would be revised to prohibit operations that would cause

introduction into the RCS of coolant with boron concentration less than that which would meet SDM requirements. The proposed revision would allow introduction into the RCS of coolant at a lower boron concentration than the RCS provided the lower concentration is greater than or equal to the boron concentration required to preserve the required SDM.

Additions of makeup water to the RCS are routinely required. If the makeup water is at a lower boron concentration than the RCS, it would result in some positive reactivity addition. In addition, water in the refueling water storage tank of the same boron concentration as the RCS may appear to be at a slightly lower boron concentration due to chemistry sampling uncertainties. However, makeup to the RCS under these circumstances is a safe operation provided the makeup boron concentration is greater than or equal to the concentration required to preserve the SDM.

The proposed TS changes for St. Lucie Units 1 and 2 are similar to those approved for TSTF-286, Revision 2 except that STS 3.1.1 and 3.1.2 are not combined as provided in TSTF-286, Revision 2. Additionally, for St. Lucie, the equivalent TS are 3.1.1.1 and 3.1.1.2. Otherwise, the proposed TS changes are comparable and consistent with the language that the staff approved in TSTF-286, Revision 2.

3.1.5 For St. Lucie Units 1 and 2, TS 3.8.1.2, AC Sources - Shutdown, TS 3.9.2, Refueling Operations Instrumentation, and for St. Lucie Unit 2 only, TS 3.8.2.2, DC Sources - Shutdown, TS 3.8.3.2, Onsite Power Distribution - Shutdown, currently require suspension of operations involving positive reactivity additions under certain conditions. These TS would be modified to suspend operations involving positive reactivity additions only if they could result in loss of required SDM or boron concentration. The staff has reviewed these proposed TS changes and has determined that they are comparable to and meet the intent of the language that the staff approved in TSTF-286, Revision 2. Changes to TS 3.8.2.2 and 3.8.3.2 apply to St. Lucie Unit 2 only, because the Unit 1 TS do not contain comparable restrictions.

3.2 TS Bases

In its submittal, the licensee proposed changes to the TS BASES 3/4.1.2 - Boration Systems, 3/4.4.1- Reactor Coolant Loops And Coolant Circulation, 3/4.9.1 - Boron Concentration, and 3/4.9.8 - Shutdown Cooling And Coolant Circulation. These sections would be revised to reflect the proposed TS changes. The proposed BASES wording meets the intent of TSTF-286, Revision 2, and should be incorporated in accordance with the licensee's TS Bases Control Program.

3.3 Summary

The staff has reviewed the licensee's submittal and supporting documentation, and clarifying information obtained through discussions with the licensee. Based on the considerations above, the staff has concluded that the proposed revisions to the TS identified above are consistent with the intent of the language the staff approved in TSTF-286, Revision 2 and are acceptable.

4.0 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.

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 (66 FR 48287, dated September 19, 2001). 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.

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Date: November 19, 2001

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