May 30, 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: ST. LUCIE UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS REGARDING CONTAINMENT VACUUM RELIEF VALVE ALLOWED OUTAGE TIME EXTENSION (TAC NOS. MB4229 AND MB4230)

Dear Mr. Stall:

The Commission has issued the enclosed Amendment Nos. 182 and 125 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 (TS) in response to your application dated February 20, 2002.

These amendments revise TS 3/4.6.5, "Vacuum Relief Valves," to make the Limiting Condition for Operation applicable to vacuum relief " lines" and extend the allowed outage time for the containment vacuum relief lines from 4 hours to 72 hours. Also, some specific requirements for surveillance testing and valve actuation setpoints are relocated to the TS Bases documents.

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. 182 to DPR-67
2. Amendment No. 125 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. 182
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 February 20, 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, 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. 182, 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/
Thomas Koshy, 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: May 30, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 182

TO FACILITY OPERATING LICENSE NO. DPR-67

DOCKET NO. 50-335

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 6-26	3/4 6-26

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. 125
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 20, 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, 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. 125, 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/
Thomas Koshy, 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: May 30, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 125

TO FACILITY OPERATING LICENSE NO. NPF-16

DOCKET NO. 50-389

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 6-26	3/4 6-26

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 182 AND 125

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 February 20, 2002, 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 Section 3.6.5 of the Unit 1 and 2 Technical Specifications (TS) to modify the applicability of the specification from vacuum relief "valves" to vacuum relief "lines" and would extend the allowed outage time (AOT) for the containment vacuum relief lines from 4 hours to 72 hours. Valve actuation setpoint and stroke time requirements specified in the TS will be moved to the TS Bases. The primary intent of the proposed TS changes is to facilitate compliance with the Inservice Testing (IST) Program without placing the plant at risk for an unnecessary forced shutdown. The extended AOT will provide sufficient time to perform the required surveillance operability tests and make any required adjustments on the containment vacuum relief valves.

The proposed changes are modeled after NUREG-1432, Revision 2, *Standard Technical Specifications (STS) Combustion Engineering Plants*, Section 3.6.12, "Vacuum Relief Valves (Dual)." They are also consistent with those approved by the U.S. Nuclear Regulatory Commission (NRC) in TS Amendment No. 171 for the Waterford Steam Electric Station, Unit 3, on June 18, 2001. The Waterford Station is a Combustion Engineering plant with a containment design similar to St. Lucie.

2.0 REGULATORY EVALUATION

Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses to include technical specifications as part of the license. The Commission's regulatory requirements that are related to the content of the TS are contained in Title 10, *Code of Federal Regulations* (10 CFR), Section 50.36. The TS requirements in 10 CFR 50.36 include the following categories: (1) safety limits, limiting safety systems settings and control settings, (2) limiting conditions for operation (LCO), (3) surveillance requirements, (4) design features, and (5) administrative controls.

As stated in 10 CFR 50.59(c)(1)(i), a licensee is required to submit a license amendment pursuant to 10 CFR 50.90 if a change to the TS is required. Furthermore, the requirements of 10 CFR 50.59 necessitate that NRC approve the TS changes before the TS changes are implemented.

The staff reviewed the proposed changes for compliance with 10 CFR 50.36 and agreement with the precedent as established in NUREG-1432. The licensee cannot justify technical specification changes solely on the basis of adopting the model STS. In each case the staff makes a determination that the change maintains adequate safety.

3.0 TECHNICAL EVALUATION

The containment vacuum relief system is discussed in Section 6.2.1 of each unit's Updated Final Safety Analysis Report (UFSAR). The St. Lucie containment vessels are designed for an external pressure differential of 0.7 pounds per square inch (psi) at 120 ^{o}F. During normal plant operation, the containment vessel is vented and cooled, as required, to eliminate pressure fluctuations caused by air temperature changes. The vacuum relief system protects the containment vessel against an excessive negative pressure condition inside containment (i.e., lower pressure inside than outside), which can occur if there is an inadvertent actuation of the containment spray system during normal operation.

The containment pressure relief system consists of two 100 percent vacuum relief lines, installed in parallel. The vacuum relief lines are 24-inch penetrations that connect the shield building annulus to the containment. The penetrations provide a flow path between the annulus and the containment. Each of the redundant lines making up the containment vacuum relief system is functionally independent. Each penetration has its own set of dual-function, in-series isolation valves that include one 24-inch pneumatically operated butterfly valve and one 24-inch check valve. The pneumatically operated butterfly valves are installed on the shield building annulus side of the containment penetration, and serve as automatic vacuum relief valves as well as containment isolation valves. These valves are normally closed during normal power operation. Each butterfly valve is actuated by a separate pressure controller that senses the differential pressure between the containment and the annulus.

The check valves are installed on the containment side of the penetration to protect the containment against excessive external pressure, prevent backflow of containment air to the annulus, and serve as containment isolation valves. The check valves have magnetic latches that hold the valve swing plate firmly in the closed position until required to open.

The check valves are designed to open at a differential pressure of 1.1 inches water gauge (w.g.). If the pressure differential between the annulus and the containment atmosphere continues to increase (containment pressure being lower than the annulus pressure), both butterfly valves are automatically opened by separate differential pressure transmitters to allow the air pressure in the annulus to relieve into the containment.

The UFSAR analysis shows that, in the event of an inadvertent initiation of the containment spray system, the peak differential pressure is kept below the design limit as long as one of the redundant relief lines is operable. For each unit, TS 3/4.6.5, "Vacuum Relief Valves," contains a Limiting Condition For Operation (LCO) and Surveillance Requirements (SR) to ensure that

the vacuum relief system remains operable. The LCO requires the primary containment to annulus vacuum relief valves to be operable with an actuation setpoint of 2.25±0.25 inches w.g. differential (for Unit 1) and 9.85±0.35 inches w.g. differential (for Unit 2). With one primary containment to annulus vacuum relief valve inoperable, the valve must be returned to operable status within 4 hours or the plant must be placed in hot standby within the next 6 hours and in cold shutdown within the following 30 hours. The SR requires surveillance of the valves in accordance with the IST Program for both units. The Unit 1 SR has an additional requirement to verify, at least once per 3 years, that the vacuum relief valves open fully within 8 seconds. St. Lucie 1 and 2 operate under a combined IST program, which currently is committed to comply with the 1989 Edition of ASME Section Xl, as mandated by 10 CFR 50.55(a). The 1989 Edition of ASME Section XI references ASME/ANSI OM-1987, Part 1, which requires that primary containment vacuum relief valves be tested at 6-month intervals and provides specific testing requirements.

The first proposed change would modify the applicability of the LCO from vacuum relief “valves” to vacuum relief “lines” and would require two vacuum relief lines to be operable. The proposed changes to the TS 3/4.6.5 LCO at St. Lucie are modeled after NUREG-1432, Revision 2, which requires operability of vacuum relief lines. The LCO establishes the minimum equipment required to accomplish the vacuum relief function following the inadvertent actuation of the containment spray system, assuming a single active failure. Two vacuum relief lines are required to be operable to ensure that at least one is available, assuming one or both valves in the other line fail to open. The proposed change is based on the original design-basis accident analysis involving an inadvertent containment spray system actuation during normal plant operation that can reduce the atmospheric temperature (and hence pressure) inside containment. The analysis is contained in Section 6.2.1 of the Unit 1 and Unit 2 UFSARs. Conservative assumptions are used for pertinent parameters in the analysis. The inadvertent actuation of the containment spray system was analyzed to determine the resulting reduction in containment pressure. The analysis shows that, with one of the two redundant vacuum relief lines failing to open, the resultant peak containment calculated external pressure load is 0.66 psid for Unit 1 and 0.615 psid for Unit 2, which is less than the design external pressure load equivalent of 0.7 psid. Per 10 CFR 50.36, LCOs are the lowest functional capability or performance levels of equipment required for safe operation. Since failure of a line can result from failure of any component in the line, not just the valve, the proposed change clarifies the applicability of the requirement, is more restrictive than the existing LCO, and is acceptable.

The next proposed change would increase the time allowed to restore an inoperable vacuum relief line to operable status. When one of the required vacuum relief lines is inoperable, the present TS require the inoperable line to be restored to operable status within 4 hours. The licensee proposes to increase the AOT to 72 hours. The proposed AOT extension facilitates compliance with the IST Program testing without placing the plant at risk for a forced shutdown by providing sufficient time to perform the required surveillance operability tests and any required adjustments on the primary containment to annulus vacuum relief valves. Currently, the IST program requires the vacuum relief valves to be actuated quarterly to verify stroke time and at 6-month intervals to verify their actuation setpoints. This testing can be performed remotely within the 4-hour AOT of TS 3.6.5 from outside the containment. However, if there are any test delays or required adjustments, the 4-hour AOT could be exceeded, requiring the initiation of an unnecessary forced shutdown. In addition, the extended AOT will allow flexibility in the performance of potential on-line maintenance and repair during plant operation in Modes 1, 2, 3, and 4. The staff considers the proposed change to the AOT acceptable based on a

qualitative judgment of the low probability that the system will be called upon to perform its design basis function with one train inoperable. This time period is also consistent with other LCOs for the loss of one train of a system required to mitigate the consequences of a loss of coolant accident or other design basis accident, and the proposed TS change is in conformance with NUREG-1432.

Currently, TS 3/4.6.5 requires the primary containment to annulus vacuum relief valves to be tested in accordance with the IST Program. The current TS 3/4.6.5 SR for each unit states, "No additional Surveillance Requirements other than those required by the Inservice Inspection Testing Program." The proposed change would replace this with, "Verify each vacuum relief line OPERABLE in accordance with the Inservice Testing Program." The staff finds these to be equivalent statements, and the proposed wording is consistent with the wording in NUREG-1432.

The proposed change moves some specific requirements contained in the current TS to the TS Bases documents. The current TS 3/4.6.5 lists the specific actuation setpoints for the vacuum relief valves in the LCO. For Unit 1 only, there is an additional requirement to verify, at least once per 3 years, that the vacuum relief valves open fully within 8 seconds. The licensee has provided proposed new Bases, which incorporate the identified requirements. By the proposed change, the vacuum relief valve setpoints will be added to the Unit 1 and Unit 2 TS Bases, and the 8-second stroke time will be added to the Unit 1 TS Bases. The vacuum relief valves will be tested in accordance with the IST Program and at an interval that is consistent with the IST Program. Currently, this requires stroke times to be verified quarterly and actuation setpoints to be verified every 6 months, which ensures that the Unit 1 requirement for a test at least every 3 years is met. The proposed TS changes are consistent with NUREG-1432, which requires surveillance to be conducted in accordance with the IST program and does not specify setpoints or frequency of testing. The proposed Bases changes are also consistent with NUREG-1432.

Per 10 CFR 50.36, surveillance requirements are included in TS to assure that the necessary quality of systems and components is maintained and that LCOs will be met. The staff finds that the requirements of 10 CFR 50.36 are satisfied by specifying surveillance of the containment vacuum relief valves in accordance with the IST program. Setpoints are design values that may appropriately be contained in other licensee controlled documents. Therefore, relocation of the valve actuation setpoints to the TS Bases is also acceptable.

Based on the above discussion, the staff finds the proposed changes to the TS to be acceptable.

3.0 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.

4.0 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 and changes surveillance requirements. 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 12602, dated March 19, 2002). 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.

5.0 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: Brendan Moroney, NRR

Date: May 30, 2002

Mr. J. A. Stall
Florida Power and Light Company

ST. LUCIE PLANT

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