

March 17, 2006

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 NUCLEAR PLANT, UNIT 2 - ISSUANCE OF EXIGENT
AMENDMENT RE: CONTAINMENT PURGE VALVES (TAC NO. MD0175)

Dear Mr. Stall:

The Commission has issued the enclosed Amendment No. **142** to Facility Renewed Operating License No. NPF-16 for the St. Lucie Nuclear Plant, Unit 2. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated February 21, 2006.

The amendment revises TS 3.6.1.7, "Containment Ventilation System," to allow additional corrective actions when a containment purge supply or exhaust isolation valve exceeds leakage limits.

This amendment is being issued under exigent circumstances in accordance with Section 50.91(a)(6) of Title 10 of the *Code of Federal Regulations*. The exigent circumstances and the final no significant hazards considerations are addressed in Sections 4.0 and 5.0 of the enclosed Safety Evaluation.

The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

/RA/

Brendan T. Moroney, Project Manager
Project Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-389

Enclosures: 1. Amendment No. 142 to NPF-16
2. Safety Evaluation

cc w/encls: See next page

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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 RENEWED FACILITY OPERATING LICENSE

Amendment No. 142
Renewed 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 21, 2006, 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, Renewed 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 3.B to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 142, 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 immediately.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Michael L. Marshall, Jr., Branch Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 17, 2006

ATTACHMENT TO LICENSE AMENDMENT NO. 142

TO RENEWED FACILITY OPERATING LICENSE NO. NPF-16

DOCKET NO. 50-389

Replace the following page 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 6-14
- -

Insert Pages

3/4 6-14
3/4 6-14a

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 142 TO FACILITY OPERATING LICENSE NO. NPF-16

FLORIDA POWER AND LIGHT COMPANY, ET AL.

ST. LUCIE NUCLEAR PLANT, UNIT NO. 2

DOCKET NO. 50-389

1.0 INTRODUCTION

By letter dated February 21, 2006, Florida Power and Light Company, et al., (the licensee) requested to amend Renewed Operating License NPF-16 for St. Lucie Unit 2, by revising Technical Specifications (TSs). Specifically, the proposed amendment would revise TS 3.6.1.7 Action c to include additional corrective actions that could be taken if the measured leakage rate of a containment purge supply and/or exhaust valve exceeds the limits of surveillance requirements.

The proposed amendment was submitted as a required follow-up action to a Notice of Enforcement Discretion (NOED) that the U.S. Nuclear Regulatory Commission (NRC, Commission) staff verbally granted on February 15, 2006, to allow St. Lucie Unit 2 to continue operating with a blind flange installed in place of an inoperable containment purge supply valve. Use of a blind flange is not permitted by the current St. Lucie Unit 2 TSs. Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.91(a)(6), the licensee requested that the proposed amendment be issued under exigent circumstances in order to promptly restore compliance with the plant TSs for containment purge supply and exhaust valves. A detailed discussion of this event is contained in Section 4.0 of this evaluation.

2.0 REGULATORY EVALUATION

Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses to include TSs as part of the license. The licensee provides TSs in order to maintain the operational capability of structures, systems and components that are required to protect the health and safety of the public. The Commission's regulatory requirements related to the content of the TS are contained in 10 CFR 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; (3) surveillance requirements; (4) design features; and (5) administrative controls.

Pursuant to 10 CFR 50.90, licensees may request changes to their TSs. In general, there are two classes of changes to TSs: (1) changes needed to reflect modifications to the design basis (TSs are derived from the design basis), and (2) voluntary changes to take advantage of the evolution in policy and guidance as to the required content and preferred format of TSs over time. This amendment deals with only the second class of changes. In determining the

acceptability of such changes, the staff interprets the requirements of the current version of 10 CFR 50.36, using as a model the accumulation of generically approved guidance in the Improved Standard TSs (STSs). For Combustion Engineering design plants, these are contained in NUREG-1432.

Licensee are encouraged to use the improved STSs as the basis for complete revisions to the current TSs, but in accordance with Commission policy, licensees may adopt portions of the improved STSs without fully implementing all STS improvements. Licensees may revise individual TSs to adopt current improved STS format and content provided that plant-specific review supports a finding of continued adequate safety because: (1) the change is editorial, administrative or provides clarification (i.e., no requirements are materially altered), (2) the change is more restrictive than the licensee's current requirement, or (3) the change is less restrictive than the licensee's current requirement, but nonetheless still affords adequate assurance of safety when judged against current regulatory standards. The detailed application of this general framework is discussed in Section 3.0 in the context of the specific proposed changes.

3.0 TECHNICAL EVALUATION

3.1 Licensee's Proposed TS Changes

The following changes are proposed to Technical Specification 3.6.1.7 Action c:

- Add a provision that allows use of at least one closed and de-activated automatic valve with resilient seals (tested for seat leakage) or a blind flange to isolate the affected penetration flow path if a containment purge supply and/or exhaust isolation valve has a measured leakage rate exceeding the limits of Surveillance Requirements 4.6.1.7.3 and/or 4.6.1.7.4
- Add substep 1 to Action c that states, "1. Closed and de-activated automatic valve(s) with resilient seals used to isolate the penetration flowpath(s) shall be tested in accordance with either Surveillance Requirement 4.6.1.7.3 for 48-inch valves at least once per 6 months or Surveillance Requirement 4.6.1.7.4 for 8-inch valves at least once per 92 days."
- Add substep 2 to Action c that states, "2. Verify* the affected penetration flowpath is isolated once per 31 days for isolation devices outside containment and prior to entering MODE 4 from MODE 5 for isolation devices inside containment if not performed within the previous 92 days."
- Add notation for the asterisk associated with the word "verify" in Action c, substep 2, that states, "**Verification of isolation devices by administrative means is acceptable when they are located in high radiation areas or they are locked, sealed, or otherwise secured by administrative means."

3.2 NRC Staff Evaluation

The licensee states that the containment purge valves are part of the containment purge and/or the continuous purge/hydrogen purge systems, which are not required for safe shutdown of the reactor or to mitigate the consequences of a design-basis accident. The only parts of the purge systems that are safety-related are the containment penetrations and the isolation valves. The containment penetration and the isolation valves are part of the containment boundary, and the design basis is to prevent a radioactive release during accident conditions in order to maintain radiation dose at the site boundary within the limits of 10 CFR Part 100.

The current TSs focus on isolation valve operability and require periodic surveillance to demonstrate that the measured leakage rate through the isolation valves is less than design limits. If the leakage rate is greater than the limit, the valve is declared inoperable and operability must be restored within 24 hours. However, since the valves are not required to be opened and closed, and the only safety function is to ensure that leakage from the penetration remains within limits, it is appropriate to have corrective actions focus on operability of the penetration rather than the isolation valves. The Commission recognized this in approving the STSs, which allow for alternate methods, such as a blind flange, to seal the penetration when leakage through the valves is excessive. The proposed changes to TS 3.6.1.7 Action c establish additional corrective actions that are consistent with STS 3.6.3 Condition E in NUREG-1432, Rev. 3.

The proposed change retains the current TS requirement to complete corrective actions within 24 hours. The additional corrective actions (closed and de-activated automatic valve or blind flange) add provisions that are in the approved STSs. The proposed change also adds requirements for periodic verification of the alternate methods, if used, that are equivalent to the STS requirements. The proposed change also adds a requirement that, when the alternate methods are used, leakage will be measured by performing periodic surveillances that are equivalent to those required for the isolation valves by the current TSs.

In summary, the proposed changes do not affect the safety-related function of the containment purge valves and add enhancements to the current TSs that are consistent with the NRC-approved STSs. The NRC staff concludes that adequate safety is maintained because the proposed changes, while less restrictive than the licensee's current TSs, still afford adequate assurance of safety when judged against current regulatory standards and, therefore, the proposed changes are acceptable.

4.0 EXIGENT CIRCUMSTANCES

The regulations at 10 CFR 50.91 contain provisions for issuance of amendments when the usual 30-day public comment period cannot be met. One type of special exception is an exigency. An exigency is a case where the NRC staff and licensee need to act promptly. In this case, there is insufficient time to process the license amendment request within the normal time frame. Pursuant to 10 CFR 50.91(a)(6), the licensee requested the proposed amendment on an exigent basis.

Under such circumstances, the Commission notifies the public in one of two ways: (1) by issuing a *Federal Register* notice providing an opportunity for hearing and allowing at least

2 weeks for prior public comments, or (2) by issuing a press release discussing the proposed changes, using local media. In this case, the Commission used the first approach.

The need for prompt action is based on conditions associated with a NOED that the NRC granted verbally on February 15, 2006, and confirmed in a letter dated February 22, 2006, as described below.

On February 14, 2006, at 4:10 p.m., the St. Lucie Unit 2 inboard 8-inch containment purge supply isolation valve failed a routine local leak rate test (LLRT), required by TS Surveillance Requirement 4.6.1.7.4, due to the failure of a shear pin that uncoupled the actuator from the valve stem. The valve was declared inoperable and TS 3.6.1.7 Action c was entered. TS 3.6.1.7 Action c requires that with a containment purge supply and/or exhaust isolation valve(s) having a measured leakage rate exceeding the limits of Surveillance Requirements 4.6.1.7.3 and/or 4.6.1.7.4, the licensee must restore the inoperable valve(s) to OPERABLE status within 24 hours, otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. The licensee determined that the valve could not be restored to OPERABLE status within the allowed 24 hours and, due to its unique design, there was no replacement valve readily available. A blind flange was installed in place of the valve, and leak integrity of the containment penetration was confirmed by an LLRT. The licensee recognized that Unit 2 would violate the allowed outage time for Action c on February 15, 2006, at 4:10 p.m. On February 15, the licensee contacted the NRC and verbally requested enforcement discretion to allow the use of the blind flange to satisfy TS 3.6.1.7 Action c requirements. The request was discussed in a conference call between the licensee and NRC headquarters and Region 2 staff members in accordance with guidance contained in Part 9900 of the NRC Inspection Manual. The licensee stated that a NOED would avoid an unnecessary plant transient as a result of compliance with TS 3.6.1.7 Action c and minimize the potential safety consequences and operational risks. The licensee had evaluated the potential risk associated with the proposed use of a blind flange and concluded that the proposed action would not be a potential detriment to the public health and safety, because there was no net increase in radiological risk to the public. Additionally, since the use of a blind flange is consistent with the STSs for Combustion Engineering plants, the licensee proposed to submit a license amendment request to allow the use of a blind flange to satisfy the requirements of TS 4.6.1.7 Action c.

The licensee initially requested that the enforcement discretion be effective until the next refueling outage for St. Lucie Unit 2, which was scheduled to begin in late April 2006. This would allow adequate time to plan the repair and obtain the necessary parts. It would also avoid the potential risks to equipment and personnel associated with attempting a valve repair or replacement inside the reactor containment building while the plant was operating. The NRC staff acknowledged these concerns, but indicated that a more timely resolution was warranted to restore compliance with the TSs. Considering the uncertainties associated with the valve repair, it was agreed that the time in the NOED condition could be reduced by effecting the proposed change to the TSs. The staff concluded that an exigent amendment request was the most appropriate method to accomplish this. Therefore, the licensee committed to submitting an exigent license amendment request to allow the use of a blind flange to satisfy the requirements of TS 4.6.1.7 Action c.

5.0 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 considerations 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 the margin of safety. In Section 5.1 of its application, the licensee provided the following no significant hazards consideration analysis:

- (1) Operation of the facility in accordance with the proposed amendments would not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change to the St. Lucie Unit 2 Technical Specifications will allow isolation of the affected penetration using a closed and de-activated automatic valve with resilient seals or a blind flange in the event that one or more containment purge valves are not within valve leakage limits. This action is consistent with the applicable required actions for Condition E of Specification 3.6.3 of NUREG-1432, 'Standard Technical Specifications Combustion Engineering Plants.' The containment purge valves are part of the containment purge and/or the continuous purge/hydrogen purge systems. The containment purge valves are not accident initiators. In addition, neither the containment purge nor the continuous purge/hydrogen purge systems are required for safe shutdown of the reactor or to mitigate the consequences of a design basis accident. The containment purge system is designed to reduce the level of radioactive contamination in the containment atmosphere below the limits of 10 CFR 20 so as to permit personnel access to the containment during shutdown and refueling. The continuous purge/hydrogen purge system is used as a not-nuclear-safety backup to the redundant safety-related hydrogen recombiners which maintain containment hydrogen concentration below 4% after a postulated accident.

Use of a closed and de-activated automatic valve with resilient seals or a blind flange to isolate a failed penetration provides a barrier to the release of radioactivity for those accidents previously evaluated. Therefore, operation of the facility in accordance with the proposed amendments does not involve a significant increase in the probability or consequences of an accident previously evaluated.

- (2) Operation of the facility in accordance with the proposed amendments would not create the possibility of a new or different kind of accident from any accident previously evaluated.

The containment purge valves are not accident initiators. Use of a closed and de-activated automatic valve with resilient seals or a blind flange to isolate a failed penetration does not introduce any new failure modes. Therefore, operation of the facility in accordance with the proposed amendments does not

create the possibility of a new or different kind of accident from any accident previously evaluated.

(3) Operation of the facility in accordance with the proposed amendments would not involve a significant reduction in a margin of safety.

Use of a closed and de-activated automatic valve with resilient seals or a blind flange to isolate a failed penetration will ensure that the penetration's pressure retention containment isolation safety function continues to be satisfied. There will be no decrease in the ability of the containment purge or the continuous purge/hydrogen purge systems to perform their containment isolation safety function as assumed in the accident analyses. In addition, use of a closed and de-activated automatic valve with resilient seals or a blind flange to isolate a failed containment purge penetration is consistent with the provisions of Condition E of Specification 3.6.3 of NUREG-1432. Therefore, operation of the facility in accordance with the proposed amendments will not involve a significant reduction in a margin of safety.

This no significant hazards consideration determination was included in the notice published in the *Federal Register* on March 1, 2006 (71 FR 10566).

The NRC staff has reviewed the licensee's analysis given above. As stated by the licensee, the containment purge valves are not accident initiators, and neither the containment purge nor the continuous purge/hydrogen purge systems are required for safe shutdown of the reactor or to mitigate the consequences of a design basis accident. The only safety-related function of the isolation valves is to maintain the integrity of the containment penetration and to prevent a radioactive release during accident conditions in order to maintain radiation dose at the site boundary within the limits of 10 CFR Part 100. The proposed alternative will maintain the integrity of the containment penetration and this will be periodically verified by using the same leakage surveillance tests as the existing valves. Therefore, the proposed alternative would not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed alternative replaces the isolation valve with an essentially passive component that will not be required to operate and, thus, would not create the possibility of a new or different kind of accident from any accident previously evaluated. Since the proposed alternative will ensure that the integrity of the penetration is maintained, the containment isolation safety function will continue to be satisfied and, accordingly, there would not be a significant reduction in a margin of safety.

Based on this review, the NRC staff concludes that the three standards of 10 CFR 50.92(c) are satisfied and, therefore, the amendment request involves no significant hazards consideration.

6.0 STATE CONSULTATION

Based upon a letter dated May 2, 2003, from Michael N. Stephens of the Florida Department of Health, Bureau of Radiation Control, to Brenda L. Mozafari, Senior Project Manager, U.S. Nuclear Regulatory Commission, the State of Florida does not desire notification of issuance of license amendments.

7.0 ENVIRONMENTAL CONSIDERATION

The amendment changes 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 amendment involves 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 made a final finding that the amendment involves no significant hazards consideration. Accordingly, the amendment meets 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: Craig Harbuck
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Date: March 17, 2006