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DEC 20 1983

Docket No. 50-389

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Mr. J. W. Williams, Jr.
Vice President
Nuclear Energy Department
Florida Power & Light Company
P. O. Box 14000
Juno Beach, Florida 33408

OELD
LJHarmon
TBarnhart (4)
WJones

Dear Mr. Williams:

SUBJECT: ISSUANCE OF AMENDMENT NO. 4 TO FACILITY OPERATING LICENSE NPF-16,
ST. LUCIE PLANT, UNIT NO. 2

The U. S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 4 to Facility Operating License No. NPF-16 for the St. Lucie Plant, Unit No. 2 located in St. Lucie County, Florida. The amendment consists of changes to the Technical Specifications (TS) in response to your application dated June 6, 1983 and your letter dated June 28, 1983. The date of your application is correctly cited in the Safety Evaluation and incorrectly cited as July 5, 1983 in the initial Federal Register notice published on September 15, 1983.

The amendment changes the testing frequency of the turbine overspeed protection valves from weekly to monthly. This change is granted on an interim basis pending establishment of a probabilistic turbine missile position currently being prepared by the staff and completion of the review of Westinghouse generic reports on the subject.

The following two conditions apply to this change:

1. All turbine valves will be tested once per month, twelve times per year.
2. Florida Power and Light will use only an all volatile treatment program for maintaining secondary water chemistry.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next regular monthly Federal Register notice.

Sincerely,

Donald E. Sells, Project Manager
Operating Reactors Branch #3
Division of Licensing

Enclosure:

1. Amendment No. 4 to NPF-16
2. Safety Evaluation

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DSells
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JRM/ller
12/15/83

OELD
W.D. Paton
12/15/83

CMT 12/20/83



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

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. 4
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 June 6, 1983 as supplemented by letter dated June 28, 1983, 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.

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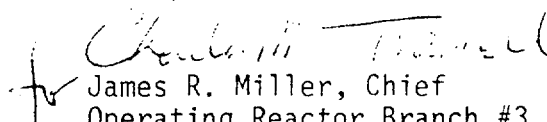
2. Accordingly, Facility Operating License No. NPF-16 is amended by changes to the Technical Specifications as indicated in the Attachment to this license amendment, and by amending paragraph 2.C.2 to read as follows:

2. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 4, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


James R. Miller, Chief
Operating Reactor Branch #3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 20, 1983

ATTACHMENT TO LICENSE AMENDMENT NO. 4
TO FACILITY OPERATING LICENSE NO. NPF-16
DOCKET NO. 50-389

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised page is identified by amendment number and contains vertical lines indicating the area of change. The corresponding overleaf page is also provided to maintain document completeness.

Page

3/4 3-60

INSTRUMENTATION

3/4.3.4 TURBINE OVERSPEED PROTECTION

LIMITING CONDITION FOR OPERATION

3.3.4 At least one turbine overspeed protection system shall be OPERABLE.

APPLICABILITY: MODES 1, 2,* and 3.*

ACTION:

- a. With one stop valve or one control valve per high pressure turbine steam lead inoperable and/or with one reheat stop valve or one reheat intercept valve per low pressure turbine steam lead inoperable, restore the inoperable valve(s) to OPERABLE status within 72 hours, or close at least one valve in the affected steam lead or isolate the turbine from the steam supply within the next 6 hours.
- b. With the above required turbine overspeed protection system otherwise inoperable, within 6 hours isolate the turbine from the steam supply.

SURVEILLANCE REQUIREMENTS

4.3.4.1 The provisions of Specification 4.0.4 are not applicable.

4.3.4.2 The above required turbine overspeed protection system shall be demonstrated OPERABLE:

- a. At least once per month by cycling each of the following valves through at least one complete cycle from the running position.
 1. Four high pressure turbine stop valves.
 2. Four high pressure turbine control valves.
 3. Four low pressure turbine reheat stop valves.
 4. Four low pressure turbine reheat intercept valves.
- b. At least once per 31 days by direct observation of the movement of each of the above valves through one complete cycle from the running position.
- c. At least once per 18 months by performance of a CHANNEL CALIBRATION on the turbine overspeed protection systems.
- d. At least once per 40 months by disassembling at least one of each of the above valves and performing a visual and surface inspection of valve seats, disks and stems and verifying no unacceptable flaws or corrosion.

* With any main steam line isolation valve and/or any main steam line isolation valve bypass valve not fully closed.

TABLE 4.3-9 (Continued)

TABLE NOTATION

- * At all times other than when the line is valved out and locked.
 - ** During waste gas holdup system operation.
 - *** At all times when air ejector exhaust is not directed to plant vent.
- (1) The CHANNEL FUNCTIONAL TEST shall also demonstrate that automatic isolation of this pathway and control room alarm annunciation occurs if any of the following conditions exists:
 1. Instrument indicates measured levels above the alarm/trip setpoint.
 2. Circuit failure.
 3. Instrument indicates a downscale failure.
 4. Instrument controls not set in operate mode.
 - (2) The CHANNEL FUNCTIONAL TEST shall also demonstrate that control room alarm annunciation occurs if any of the following conditions exists:
 1. Instrument indicates measured levels above the alarm setpoint.
 2. Circuit failure.
 3. Instrument indicates a downscale failure.
 4. Instrument controls not set in operate mode.
 - (3) The initial CHANNEL CALIBRATION for radioactivity measurement instrumentation shall be performed using one or more of the reference standards traceable to the National Bureau of Standards or using standards that have been calibrated against standards certified by the NBS. These standards should permit calibrating the system over its intended range of energy and rate capabilities that are typical of normal plant operation. For subsequent CHANNEL CALIBRATION, button sources that have been related to the initial calibration may be used, at intervals of at least once per 18 months.
 - (4) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:
 1. One volume percent oxygen, balance nitrogen, and
 2. Four volume percent oxygen, balance nitrogen.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 4 TO FACILITY OPERATING LICENSE NO. NPF-16

FLORIDA POWER AND LIGHT COMPANY

ORLANDO UTILITIES COMMISSION OF THE

CITY OF ORLANDO, FLORIDA

AND

FLORIDA MUNICIPAL POWER AGENCY

ST. LUCIE UNIT 2

DOCKET NO. 50-389

Background

In letters dated June 6, 1983 and June 28, 1983, Florida Power and Light Company (FP&L) requested a license amendment to modify the Standard Technical Specification (STS) 3/4.3 "Turbine Overspeed Protection," for St. Lucie Plant, Unit No. 2 from a turbine valve testing frequency of once a week to once a month.

Discussion

The staff's current position requiring weekly testing of turbine valves as stated in Standard Review Plan Section 10.2 "Steam Turbine" was established after extensive discussions with major steam turbine manufacturers and is based largely on engineering judgement and the recommendations of these manufacturers.

Westinghouse, in a meeting on March 23, 1983 with the staff, presented results of an ongoing study on the generation of turbine missiles being conducted on behalf of some licensees and applicants. This study specifically includes consideration of the testing requirements for the turbine overspeed protection valves and turbine valve arrangement of the type installed at St. Lucie 2. The results of this study are not final. Preliminary indications are that turbine valve operability and reliability will not be significantly affected by increasing the periodic valve testing from the present weekly to much longer interval. However, in Westinghouse's judgement, lack of a significant number of valve failures, good operating experience, and a well planned turbine valve maintenance and inspection program provide reasonable bases to increase the periodic test interval for turbines with valve arrangements as installed at St. Lucie 2 from weekly to monthly. Westinghouse stated that they intend to make a formal recommendation to their customers who have turbines employing turbine valves and steam chest arrangements, of the type installed at St. Lucie 2, to change from periodic weekly to monthly valve testing.

The staff has evaluated the information submitted by FP&L in the June 1983 letters and Westinghouse information presented at the March 23, 1983 meeting. Considering the information presented by FP&L and Westinghouse and the staff's original basis for the STS, the staff concludes that the interval between periodic turbine valve testing can be increased for St. Lucie 2 from weekly to monthly, on an interim basis, pending establishment of a new probabilistic turbine missile position that is currently being prepared by the the staff, and completion of the review of the Westinghouse generic report on the subject, without significantly affecting the capability of the turbine valves to function on demand.

In summary, the basis for considering Technical Specification relief at St. Lucie 2 was:

1. Lack of a satisfactory statistical basis to determine frequency of turbine valve testing. Up to now test frequency of these valves has been largely based on experience with turbine generators installed in fossil plants. The Westinghouse turbine missile study, when completed and evaluated by the staff, is intended to provide a basis to establish turbine valve test frequency for nuclear units.
2. The FP&L maintenance, inspection, and turbine valve test program described in the Final Safety Analysis Report (FSAR) and the proposed modification to the Technical Specifications appears to be satisfactory. This program, performed on a periodic basis coupled with monthly testing of all turbine valves, is satisfactory to the staff on an interim basis pending completion of the turbine missile study.
3. The date and rationale presented by Westinghouse at the March 23, 1983 and other previous meetings with the staff and the staff's understanding of the data presented to date.
4. Testing of turbine control valves on base loaded machines necessitates reduction of generator output for a period of several hours. The valve testing sequence during turbine operation requires placing the turbine on manual control and repositioning all turbine control valves in the steam chest to permit individual full valve stroking. All valves are aligned to equal position. Repositioning of the control valves (on a base load machine) results in reduced steam flow to the turbine with a consequent reduction in generator output of about 5%. Testing of all turbine control valves is accomplished in a relatively short time (about 35 to 40 minutes). The bulk of the time consumed (approximately 2½ to 3 hours) is in slowly lowering reactor output to correspond with the reduced turbine generator output to permit control valve testing. On completion of valve tests, a similar time period is consumed in slowly increasing reactor power, to permit full load operation of the turbine generator. The lowering and increasing of reactor output must be accomplished slowly to minimize xenon spiking. This economic impact, although not a safety consideration, was factored into the staff action.

On the basis of the above, the staff concludes that extending the turbine valve testing interval at St. Lucie 2 as stated is acceptable subject to the following conditions:

1. All turbine valves are to be tested once per month, twelve times per year.
2. The decreased frequency of turbine valve testing is acceptable on an interim basis until the turbine missile generation probability analysis performed by Westinghouse is reviewed by the staff to confirm that the study results support the verbal statements made by Westinghouse representatives in meetings with staff members.
3. FP&L uses only an all volatile treatment (AVT) program for maintaining secondary water chemistry.

The staff is in the process of evaluating the Westinghouse turbine missile generation probability analysis report. The results of the staff review, including recommendations regarding continuation of decreased turbine valve testing frequency, will be reported in a future Safety Evaluation.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have 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, and
(2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: December 20, 1983

Principal Contributors:

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R. Klecker, DE