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Docket No. 50-335

Dr. Robert E. Uhrig
Vice President
Advanced Systems & Technology
Florida Power & Light Company
P. O. Box 529100
Miami, Florida 33152

Dear Dr. Uhrig:

The Commission has issued the enclosed Amendment No. 41 to Facility Operating License No. DPR-67 for St. Lucie Unit No. 1. This amendment consists of changes to the Technical Specifications in response to your application dated August 13, 1981 as supplemented on August 20, 1981.

The amendment changes the Technical Specifications by reducing the number of incore detectors which must be operable for the incore detectors system to be considered operable. This amendment is effective upon issuance and expires October 1, 1981.

Copies of the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

Original signed by:

Christian C. Nelson, Project Manager
Operating Reactors Branch #3
Division of Licensing

Enclosures:
1. Amendment No. 41 to DPR-67
2. Safety Evaluation
3. Notice of Issuance

cc: See next page

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SURNAME	PMKreutzer	CNelson/pn	RAClark	TMNovak			
DATE	8/20/81	8/21/81	8/20/81	8/21/81	8/24/81		

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Florida Power & Light Company

cc:
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Administrator
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Mr. Weldon B. Lewis
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2300 Virginia Avenue, Room 104
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U.S. Environmental Protection Agency
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ATTN: EIS COORDINATOR
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Atlanta, Georgia 30308

Mr. Charles B. Brinkman
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Resident Inspector/St. Lucie
Nuclear Power Station
c/o U.S.N.R.C.
P. O. Box 400
Jensen Beach, Florida 33457

cc w/enclosure(s) and incoming
dated: 8/13/81

Bureau of Intergovernmental
Relations
660 Apalachee Parkway
Tallahassee, Florida 32304

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

FLORIDA POWER & LIGHT COMPANY

DOCKET NO. 50-335

ST. LUCIE PLANT UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 41
License No. DPR-67

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Florida Power and Light Company dated August 13, 1981 as supplemented August 20, 1981, 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, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-67 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 41, 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

Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 21, 1981

ATTACHMENT TO LICENSE AMENDMENT NO. 41

FACILITY OPERATING LICENSE NO. DPR-67

DOCKET NO. 50-335

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised page is identified by Amendment No. and contains vertical lines indicating the area of change. The corresponding overleaf page is also provided to maintain document completeness.

Page
3/4 3-25

INSTRUMENTATION

INCORE DETECTORS

LIMITING CONDITION FOR OPERATION

3.3.3.2 The incore detection system shall be OPERABLE* with:

a. At least 75% of all incore detector locations, and

b. A minimum of two quadrant symmetric incore detector locations per core quadrant.

An OPERABLE incore detector location shall consist of a fuel assembly containing a fixed detector string with a minimum of three OPERABLE rhodium detectors.

APPLICABILITY: When the incore detection system is used for:

a. Recalibration of the excore axial flux offset detection system,

b. Monitoring the AZIMUTHAL POWER TILT,

c. Calibration of the power level neutron flux channels, or

d. Monitoring the linear heat rate.

ACTION:

With the incore detection system inoperable, do not use the system for the above applicable monitoring or calibration functions. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.2 The incore detection system shall be demonstrated OPERABLE:

a. By performance of a CHANNEL CHECK within 24 hours prior to its use and at least once per 7 days thereafter when required for:

1. Recalibration of the excore axial flux offset detection system,

2. Monitoring the linear heat rate pursuant to Specification 4.2.1.3,

* Until October 1, 1981 the incore detection system shall be OPERABLE with:

a. At least 50% of all incore detector locations, and

b. A minimum of three quadrant symmetric incore detectors for at least three levels.

SURVEILLANCE REQUIREMENTS (Continued)

3. Monitoring the AZIMUTHAL POWER TILT, or

4. Calibration of the Power Level Neutron Flux Channels.

b. At least once per 18 months by performance of a CHANNEL CALIBRATION operation which exempts the neutron detectors but includes all electronic components. The neutron detectors shall be calibrated prior to installation in the reactor core.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 41 TO

FACILITY OPERATING LICENSE NO. DPR-67

FLORIDA POWER AND LIGHT COMPANY

ST. LUCIE, UNIT NO. 1

DOCKET NO. 50-335

Introduction

By application dated August 13, 1981, as supplemented August 20, 1981, Florida Power and Light Company (FPL or the licensee) requested an interim change to the St. Lucie Unit 1 Technical Specifications. This change would permit the use of less than 75% of the incore detector strings for monitoring linear heat rate and power distribution during the remainder of Cycle 4 (until October 1, 1981).

The incore detector system at St. Lucie Unit 1 consists of 45 detector strings each having 4 rhodium detectors. In order for a detector string to be considered operable at least 3 of the 4 detectors must be operable. As of August 20, 1981 33 detectors had failed at locations where 11 strings (25%) had to be declared inoperable. If an additional detector string becomes inoperable, which could happen if one more detector becomes inoperable, FP&L will have less than the 75% operable detector strings needed for the incore detection system to be considered operable per Technical Specification 3.3.3.2. An inoperable incore detector system may not be used for monitoring linear heat rate or power distribution.

The majority of the detectors which have failed are from the same manufacturing lot. During the upcoming refueling outage FPL will replace detectors to a level where the number of inoperable detector strings will be less than 8% of the total number of strings. FPL will continue to investigate the cause of detector failure.

Evaluation

The licensee requested changes to the Technical Specifications on operability of the incore detectors at St. Luciel, 2. These consist of a reduction of the percentage of all the incore detector locations which must be operable from 75% to 40% and a reduction of the number of quadrant symmetric detectors which must be operable.

In support of this, FPL has provided an analysis[3] of the nuclear power peaking uncertainties (Fr, Fq and Fxy) for Cycle 4 operation of St. Lucie 1. The analysis shows that the differences between the measured and predicted uncertainties for Cycle 4 operation have been running substantially below the values currently in use.

The analysis shows that the combined uncertainties for the rest of the cycle would still be lower than the current limits even if up to 60% of the detectors failed. The analysis makes use of the techniques we have approved for analysis of uncertainties in C.E. reactors[4], and therefore is acceptable.

The analysis, however, assumes a particular failure pattern, and that the core power distribution does not depart significantly from what is expected. Rather than attempt to specify these conditions, we requested, and the licensee agreed[2] to change the percentage of detector locations which must be operable to 50 percent (from the currently specified value of 75 percent) rather than the 40% value contained in the original request.[1]

In addition, should the number of inoperable detector strings exceed 25%, the licensee has agreed[2] to reset the alarms from the incore detectors in a more conservative manner, to compensate for potential loss of sensitivity in the event of continued failures. The incore detectors are used to monitor the margin to linear heat rate limits at power levels above 82.5% of full power. The alarms will be set on the ratio of the highest detector in the core to the limit rather than on such a ratio determined at each axial quarter of the core. Therefore alarms will occur with less of a power change in the quarters not containing the peak linear heat rate. The changes in the alarms will tend to produce sufficiently more alarms for a change in the power distribution to offset the loss in the number of incore detectors. In addition, there is expected to be a substantial margin to the linear heat rate limits during the remainder of the cycle. Furthermore, with fewer than 75% detector strings operable, FPL will perform its power distribution surveillance, a check on actual core behavior, once per 15 effective full power days (EFPD) rather that the normal interval of about 30 EFPD.

We conclude that the proposed changes[1, 2] will continue to provide margin to the linear heat rate limits assumed as input to the LOCA analysis, showing conformity with 10 CFR 50.46 and Appendix K, and will continue to provide assurance that the uncertainties used in analysis of transients, as specified in the Standard Review Plan, will not be exceeded. Therefore we conclude that the proposed changes to the Technical Specifications are acceptable.

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) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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: August 21, 1981

References

1. Letter to D. G. Eisenhut from R. E. Uhrig, August 13, 1981.

2. Letter to D. G. Eisenhut from R. E. Uhrig, August 20, 1981.

3. "Analysis of CECOR Power Peaking Uncertainties for St. Lucie Unit 1 Cycle 4", CEN-172(F)-P, July 1981.

4. A. Jonsson, W. B. Terney and M. W. Crump, "Evaluation of Uncertainty in the Nuclear Power Peaking Measured by the Self-Powered Fixed In-Core Detector System", CENPD-153-P, Rev 1-D-A, May 1980.

7590-01

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-335

FLORIDA POWER AND LIGHT COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 41 to Facility Operating License No. DPR-67, issued to Florida Power and Light Company, which revised Technical Specifications for operation of the St. Lucie Plant, Unit No. 1 (the facility) located in St. Lucie County, Florida. The amendment is effective as of its date of issuance and expires October 1, 1981.

The amendment modifies the Technical Specifications to reduce the number of incore detectors which must be operable for the incore detection system to be considered operable.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4), an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated August 13, 1981 as supplemented August 20, 1981, (2) Amendment Nc. 41 to License No. DPR-67, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. and at the Indian River Community College Library, 3209 Virginia Avenue, Ft. Pierce, Florida. A copy of items (2) and (3) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 21st day of August, 1981.

FOR THE NUCLEAR REGULATORY COMMISSION

Eben L. Conner, Acting Chief
Operating Reactors Branch #3
Division of Licensing