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MARCH 21 1980

Docket No. 50-251

Dr. Robert E. Uhrig, Vice President
Advanced Systems and Technology
Florida Power and Light Company
Post Office Box 529100
Miami, Florida 33152

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Dear Dr. Uhrig:

The Commission has issued the enclosed Amendment No. 49 to Facility Operating License No. DPR-41 for the Turkey Point Nuclear Generating Unit No. 4. The amendment consists of changes to the Technical Specifications in response to your application transmitted by letter dated March 11, 1980.

The amendment permits continued operation of the Turkey Point Plant Unit No. 4 for an additional one equivalent full power month from that authorized by Amendment No. 44 dated February 22, 1980, for a total of ten equivalent full power months but not later than May 1, 1980, at which time the steam generators will be inspected. In addition we require that during this shutdown the turbine will be inspected or the rotor replaced.

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

Sincerely,

Original Signed By *AS* 3/21/80

A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Enclosures:

1. Amendment No. 49 to DPR-41
2. Safety Evaluation
3. Notice of Issuance

cc: w/enclosures
See next page

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NOTICE ONLY

OFFICE	DOR:ORB1	DOR:ORB1	DOR:ORB1	DOR:AD:DRP	OELD	EB
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 21, 1980

Docket No. 50-251

Dr. Robert E. Uhrig, Vice President
Advanced Systems and Technology
Florida Power and Light Company
Post Office Box 529100
Miami, Florida 33152

Dear Dr. Uhrig:

The Commission has issued the enclosed Amendment No. 49 to Facility Operating License No. DPR-41 for the Turkey Point Nuclear Generating Unit No. 4. The amendment consists of changes to the Technical Specifications in response to your application transmitted by letter dated March 11, 1980.

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

Sincerely,

A handwritten signature in cursive script, appearing to read "A. Schwencer".

A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Enclosures:

1. Amendment No. 49 to DPR-41
2. Safety Evaluation
3. Notice of Issuance

cc: w/enclosures
See next page

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Robert E. Uhrig
Florida Power and Light Company

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March 21, 1980

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Miami, Florida 33199

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Florida Power and Light Company
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Miami, Florida 33101

Honorable Dewey Knight
County Manager of Metropolitan
Dade County
Miami, Florida 33130

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Resident Inspector
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Miami, Florida 33197

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Arlington, Virginia 20460

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Region IV Office
ATTN: EIS COORDINATOR
345 Courtland Street, N.W.
Atlanta, Georgia 30308

Mr. Jack Shreve
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Administrator
Department of Environmental
Regulation
Power Plant Siting Section
State of Florida
2600 Blair Stone Road
Tallahassee, Florida 32301

Dr. Robert E. Uhrig
Florida Power and Light Company

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March 21, 1980

cc: Elizabeth S. Bowers, Esquire,
Chairman
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Panel
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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

FLORIDA POWER AND LIGHT COMPANY

DOCKET NO. 50-251

TURKEY POINT PLANT, UNIT NO. 4

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 49
License No. DPR-41

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Florida Power and Light Company (the licensee) dated March 11, 1980, 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, paragraph 3.D is modified to amend sub-paragraphs 3.D.(1) and 3.D.(2). Sub-paragraphs 3.D.(1) and 3.D.(2) read as follows:

D. Steam Generator Operation

- (1) After operation in Cycle 6 of ten equivalent full power months from June 1, 1979, but not later than May 1, 1980, Turkey Point Unit 4 shall be brought to the cold shutdown condition and the steam generators shall be inspected unless: (1) an inspection of the steam generators is performed within this period as a result of the requirements in 2, 3 and 4 below, or (2) an acceptable analysis of the susceptibility for stress corrosion cracking of tubing is submitted to explicitly justify continued operation of Unit No. 4 beyond the authorized period of operation. Any analysis justifying continued operation must be submitted at least 45 days prior to the expiration date of the authorized period of operation is defined as operation with the reactor coolant at a temperature greater than 350°F. Nuclear Regulatory Commission (NRC) approval shall be obtained before resuming power operation following this inspection.
- (2) Reactor coolant to secondary leakage through the steam generator tubes shall be limited to 0.3 gpm per steam generator. With a steam generator tube leakage greater than this limit, the reactor shall be brought to the cold shutdown condition within 24 hours. A full steam generator inspection shall be performed and NRC approval shall be obtained before resuming power operation following this inspection. In addition if, during the period to May 1, 1980, Unit 4 is shutdown to repair a steam generator tube leak, a full steam generator inspection shall be performed.
3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Attachment: •
Changes to Facility Operating
License No. DPR-41

Date of Issuance: March 21, 1980

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 49 TO FACILITY OPERATING LICENSE NO. DPR-41

DOCKET NO. 50-251

Replace the following pages of the Facility Operating License No. DPR-41 with the attached pages as indicated. The changed area in the license is indicated by a marginal line.

Remove Pages

4
5

Insert Pages

4
5

B. Technical Specifications

The Technical Specifications contained in Appendices A and B as revised through Amendment No. 43 are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

C. This license is subject to the following conditions for the protection of the environment:

- (1) The applicant shall pursue evaluations of alternatives to the proposed cooling channel system during construction, interim operation, and evaluation of the channel system. These evaluations shall include at least the following:
 - (a) Study of availability of groundwater or other alternative sources of surface water to use in the cooling system.
 - (b) Study of applicability of mechanical cooling devices, including powered spray modules and cooling towers.
 - (c) Study of marine environmental impacts of once-through cooling alternatives (described in Section X of the AEC Final Environmental Statement on Turkey Point Units 3 and 4, July 1972).
- (2) The applicant shall take appropriate corrective action on any adverse effects determined as a result of monitoring and study programs. To the fullest extent practicable, the applicant shall utilize results of study programs in improving and modifying the operation of the facility and its cooling system so as to achieve a minimal adverse environmental impact.

D. Steam Generator Operation

- (1) After operation in Cycle 6 of ten equivalent full power months from June 1, 1979, but not later than May 1, 1980, Turkey Point Unit 4 shall be brought to the cold shutdown condition and the steam generators shall be inspected unless: (1) an inspection

of the steam generators is performed within this period as a result of the requirements in 2, 3 and 4 below, or (2) an acceptable analysis of the susceptibility for stress corrosion cracking of tubing is submitted to explicitly justify continued operation of Unit No. 4 beyond the authorized period of operation. Any analysis justifying continued operation must be submitted at least 45 days prior to the expiration date of the authorized period of operation. For the purpose of this requirement, equivalent operation is defined as operation with the reactor coolant at a temperature greater than 350°F. Nuclear Regulatory Commission (NRC) approval shall be obtained before resuming power operation following this inspection.

- (2) Reactor coolant to secondary leakage through the steam generator tubes shall be limited to 0.3 gpm per steam generator. With a steam generator tube leakage greater than this limit, the reactor shall be brought to the cold shutdown condition within 24 hours. A full steam generator inspection shall be performed and NRC approval shall be obtained before resuming power operation following this inspection. In addition if, during the period to May 1, 1980, Unit 4 is shutdown to repair a steam generator tube leak, a full steam generator inspection shall be performed.
- (3) The concentration of radioiodine in the reactor coolant shall be limited to 1.0 microcurie/gram during normal operation and to 30 microcuries/gram during power transients.
- (4) Reactor operation shall be terminated and NRC approval shall be obtained prior to resuming operation if primary to secondary leakage attributable to the denting phenomena is detected in 2 or more tubes during any 20 day period.
- (5) The Metal Impact Monitoring System (MIMS) shall be contained in operation with the capability of detecting loose objects. If the MIMS is out of service in other than cold shutdown or refueling mode of operation, this fact shall be reported to the NRC. Any abnormal indications from the MIMS shall also be reported to the NRC by telephone by the next working day and by a written evaluation within two weeks.
- (6) Following each startup from below 350°F, core barrel movement shall be evaluated using neutron noise techniques.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 49 TO FACILITY OPERATING LICENSE NO. DPR-41

FLORIDA POWER AND LIGHT COMPANY

TURKEY POINT PLANT, UNIT NO. 4

DOCKET NO. 50-251

INTRODUCTION AND BACKGROUND

By letter (1-79-122) dated May 18, 1979, Florida Power and Light Company (the licensee) submitted the results of the most recent steam generator inspection for Turkey Point Unit 4 and requested authorization to operate for ten (10) equivalent (1&2) months, beginning June 1, 1979, prior to the next steam generator inspection. The technical basis for the preventive plugging program implemented subsequent to the inspection was consistent with that for programs performed previously at this and other similarly degraded units. These programs have been determined adequate by the NRC to support six (6) equivalent months of operation. The plugging criteria implemented during this inspection were more conservative than those implemented previously for six (6) months operation to support the request for ten (10) equivalent months of operation.

As indicated in our Safety Evaluation dated June 15, 1979, we did not have an adequate technical basis to predict steam generator performance for periods longer than six (6) months at a time, and that our consideration of extended operation beyond six months would depend on the operating experience at this and similarly degraded PWR units. Accordingly, license Amendment 41 authorized Turkey Point Unit 4 to operate for only six (6) equivalent months.

Turkey Point Unit 4 has operated throughout the current cycle, and since February 1978, without detectable leakage. Recent operating experience at Turkey Point Unit 3 has also been good. By license Amendments 43 and 44, the initially authorized operating interval of six (6) equivalent months (by license Amendment 41) was extended by two equivalent months and again by an additional four equivalent weeks, respectively (or a total of approximately nine equivalent months).

- (1) Equivalent operation is defined as operation with the primary coolant temperature greater than 350°F.
- (2) The licensee submittals refer to "effective full power" months which we interpret to mean "equivalent months."

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At the licensee's request, a meeting was held with the staff on March 4, 1980 to review the licensee's technical basis to support ten (10) equivalent months of operation, and difficulties currently being experienced by the licensee regarding the availability of power within its system. Licensee submittal L-80-80, dated March 11, 1980, documented the information presented during the meeting, and requested an additional one equivalent month extension to the currently authorized operating interval to ten (10) equivalent months. During the next steam generator inspection outage, currently scheduled to begin on March 24, 1980, the licensee plans to inspect the Unit 4 low pressure turbine rotors. Based upon the current delivery date for the Unit 4 rotors, the licensee states that a one month extension to May 1, 1980 would permit replacement of the low pressure turbine rotors during the steam generator inspection outage, in lieu of a rotor inspection now with possible replacement during the fall refueling.

EVALUATION

We have reviewed the licensee's submittal dated March 11, 1980 including the materials presented at the March 4 meeting. We find the licensee's technical basis in support a ten (10) month operating interval is essentially the same as that submitted previously by the licensee in its letter dated May 18, 1979. This technical basis was discussed and evaluated in our Safety Evaluation Reports supporting License Amendments 41 and 43.

We do agree that the methodology for preventive plugging to support six (6) months operation is conservative. This is clearly evidenced by data presented by the licensee which shows the implementation of this plugging program over the past several years has been accompanied by a steady decline in tube leak occurrences, and a complete absence of leaks since February 1978. Recent leak free operation can be attributed to the buildup of a "cushion" of preventively plugged tubes with respect to severely restricted tubes which could develop leaks.

However, we continue to have reservations about extrapolating the methodology for preventive plugging beyond six (6) months. The basis for identifying tubes to be preventively plugged is not entirely systematic and reflects to some degree engineering judgement regarding which tubes are likely to become severely restricted during the next operating interval. In addition, the methodology for preventive plugging does not address the time required to develop a stress corrosion crack. It is our belief that uncertainties implicit in the procedure are magnified as the time between inspections becomes larger. This would be particularly true should there be a significant shift in either the pattern or rate of denting activity. Thus we are concerned that operation for longer than six (6) months between inspections may significantly reduce the "cushion" of preventively plugged tubes with respect to severely plugged tubes which could develop leaks.

With regards to the licensee's request to extend the currently authorized operating interval by approximately one month to ten (10) equivalent months, we have considered (1) the currently authorized eight month plus four week interval has essentially been completed with no detectable leakage, (2) the 0.30 gpm primary to secondary leakage rate limit ensures that appropriate corrective action will be taken, should a leak actually occur, such that an individual crack will not become unstable during normal operation or a design basis accident, (3) the probability of a design basis accident during the additional one month of operation is small, and (4) the probability that a design basis accident would occur during the short period of time between leak detection and subsequent plant shutdown is even smaller.

Therefore, it is our conclusion that a one time operating interval of ten (10) equivalent months, not to extend beyond May 1, 1980, does not constitute any undo risk to public health or safety.

We do recommend, however, that the licensee be required to perform a steam generator inspection (in all steam generators) in the event of a plant shutdown during the current operating interval due to steam generator leakage in excess of the 0.3 gpm license restriction on the leakage rate. In addition, the licensee should be required to either inspect the low pressure turbine rotors or replace the rotors during the next outage.

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: March 21, 1980

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-251FLORIDA POWER AND LIGHT COMPANYNOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 49 to Facility Operating License No. DPR-41 issued to Florida Power and Light Company (the licensee), which revised Technical Specifications for operation of the Turkey Point Plant, Unit No. 4 (the facility) located in Dade County, Florida. The amendment is effective as of the date of issuance.

The amendment permits continued operation of the Turkey Point Plant Unit No. 4 for an additional one equivalent full power month from that authorized by Amendment No. 44 dated February 22, 1980, for a total of ten equivalent full power months but not later than May 1, 1980, at which time the steam generators will be inspected. In addition we require that during this shutdown the turbine will be inspected or the rotor replaced.

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 this amendment does not involve a significant hazards consideration.

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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 March 11, 1980, (2) Amendment No. 49 to License No. DPR-41, 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 Environmental and Urban Affairs Library, Florida International University, Miami, Florida 33199. 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 Operating Reactors.

Dated at Bethesda, Maryland, this 21st day of March, 1980

FOR THE NUCLEAR REGULATORY COMMISSION



A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors