REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8007080140 DOC.DATE: 80/06/30 NOTARIZED: NO DOCKET #
FACIL:50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250
AUTH.NAME AUTHOR AFFILIATION
UHRIG,R.E. Florida Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
EISENHUT,D.G. Division of Licensing

SUBJECT: Requests permission to delay scheduled shutdown for steam generator insp until 801006.Delay needed to accomodate peak load demand for Jul-Aug 1980.Updated generating capacity & expected load demand info & class III fee encl.

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P.O. BOX 529100, MIAMI, FL 33152

FLORIDA POWER & LIGHT COMPANY

June 30, 1980
L-80-206

Office of Nuclear Reactor Regulation
Attention: Mr. Darrell G. Eisenhut, Director
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Eisenhut:

Re: Turkey Point Unit 3
Docket No. 50-250
Steam Generator Inspection

On June 9, 1977, Florida Power & Light Company submitted information which demonstrated that the steam generator inspection and preventive tube plugging program, developed by Florida Power & Light and its NSSS vendor, ensures the protection of the health and safety of the public during normal plant operation and postulated accident conditions. The program has been used successfully at Turkey Point Units 3 and 4 since June, 1977.

On January 10, 1980 (L-80-8), Florida Power & Light Company submitted the results of the last steam generator inspection and preventive tube plugging performed for Turkey Point Unit 3. As discussed in the January 10 report, additional tubes were plugged beyond those required for a six month operating period. The criteria applied for the steam generator inspection and preventive plugging were the same as applied previously, with additional plugging criteria included to increase the conservatism in the existing program. The additional plugging criteria resulted in plugging additional tubes to justify an operating period in excess of ten months. Unit 4 recently completed a successful ten month operating interval.

Unit 3 has been operating since July, 1978 with no steam generator tube leaks. Since June 4, 1980, leakage attributed to a weeping steam generator tube plug has remained at a very low level (0.0035 gpm), well below the license limit of 0.3 gpm, and essentially constant.

In addition to normal operating conditions, postulated accident conditions have also been evaluated. The 25% tube plugging ECCS analysis, which has been approved by NRC, conservatively bounds the current steam generator tube plugging level of 19.4%. The main steam line break accident has also been addressed (for a 10 month operating interval) in our submittal of June 10.

The extensive inspections and conservative level of preventive plugging performed during the last outage, analyses of postulated accident conditions, and operating restrictions provided by existing license conditions, ensure safe plant operation for a period in excess of ten months and continue to assure protection of public health and safety.

A001 S1/3
W/CHECK
$4,000.00

8007080 140

Attachment 1 provides an update of information provided to the NRC staff earlier this year on FPL's generating capacity and expected load demand. This information has been updated to reflect the predicted conditions for the months of July, August, and September 1980. FPL has concluded that a shutdown of Turkey Point Unit 3 during these months would jeopardize our ability to provide reliable electric service to our customers in south Florida. Reserves are less than desired even with Turkey Point Unit 3 operating (because of the delay in commercial operation of our first Martin unit), and become much more severe if Unit 3 is shutdown during this 3 month interval.

Turkey Point Unit 3 currently must be shut down by July 31, 1980 to perform a steam generator inspection. Since an outage at this time is not required to ensure continued protection of the health and safety of the public and since the shutdown will impact our ability to provide reliable service to our customers, Florida Power & Light Company requests permission to delay the next steam generator inspection of Turkey Point Unit 3 until October 6, 1980. This would lead to a continuous operating interval of approximately 8-1/2 equivalent full power months, which is well within the 10 month period that has been justified as described above. Following the proposed October inspection, a subsequent inspection is planned for the next refueling outage scheduled for March, 1981.

This request has been reviewed by the Turkey Point Nuclear Safety Committee and the Florida Power & Light Company Nuclear Review Board. They concluded that granting this request will not adversely affect the health and safety of the public.

We have determined that this submittal involves a Class III fee in accordance with 10 CFR 170. Accordingly, a check for $4,000 is enclosed.

Please feel free to contact me if you should have any question regarding this matter.

Very truly yours,

E. L. Edomat

for Robert E. Uhrig
Vice President
Advanced Systems & Technology

REU/RAK/RJA/MAS/cph

Attachments

cc: Mr. J. P. O'Reilly, Region II
Harold F. Reis, Esquire

STATE OF FLORIDA)
) ss.
COUNTY OF DADE)

E. A. Adomat, being first duly sworn, deposes and says:

That he is Executive Vice President of Florida Power & Light Company, the herein;

That he has executed the foregoing document; that the statements made in this said document are true and correct to the best of his knowledge, information, and belief, and that he is authorized to execute the document on behalf of said

E. A. Adomat

Subscribed and sworn to before me this

30 day of June, 19 80

Cheryl I. Frearick

NOTARY PUBLIC, in and for the County of Dade, State of Florida

Notary Public, State of Florida at Large
My Commission Expires October 30, 1983
Bonded thru Maynard Bonding Agency

My commission expires:

ATTACHMENT 1

ITEM #1

Q. A listing of all utility-owned (in whole or in part) generators and their expected availability and capacity to produce power. Indicate planned unit maintenance or other outage and rationale for scheduling such outage at this time.

A. A listing of FPL's generating units is provided below. No units are scheduled for maintenance during July, August, and September except for 257 Mw of Gas Turbines as shown on Table #2.

TABLE 1

FPL SYSTEM GENERATING CAPACITY

Unit Name	Net-Summer Continuous Capability
Turkey Point	2079.5
1	367
2	367
3	666
4	666
Diesels	13.5
Lauderdale	910
4	137
5	137
GT's	636
Port Everglades	1473.5
1	204
2	204
3	367
4	367
Diesels	13.5
GT's	318
Riviera	653
1	40
2	69
3	272
4	272
St. Lucie	777
1	777
Cape Canaveral	729
1	367
2	362
Sanford	861
3	137
4	362
5	362
Putnam	430
1	215
2	215
Manatee	1528
1	764
2	764
Ft. Myers	1116
1	137
2	367
GT's	612
Total Installed Net Capability =	10557

Item #2

Q. A listing of all existing electric power purchase and sale contracts. Also, identify any special purchase or sales of power that take place. Indicate the specific applicability in megawatts of any of these contracts to the period of concern.

A. Florida Power & Light (FPL) has interchange contracts with other utilities both external and within the state of Florida. Firm purchases of 100 MW are presently being made from external to the state but additional firm purchases could not be negotiated on such short notice. Interchanges could occur under presently approved economy and emergency schedules, however, the availability of such power is unpredictable and not guaranteed. Even if power were available for purchase, reliability considerations dictate a maximum import capability of 223 MW. This number is based on an import capacity of 1000 MW reduced by the output capacity of our largest unit, 777 MW. (Assuming SL 1 is off.) (See Item #10).

Item #3

Q. A copy of any regional power sharing or reliability agreement indicating the specific applicability of any part of this agreement and provide detailed information regarding the possible impact of applicable load curtailment plans.

A. There is no reliability agreement within the state of Florida and no sharing of power other than interchange transactions as described in Item #2.

Item #4

Q. The expected peak load for each month for the period of concern, identifying any interruptible loads available. Additionally, an analysis of the impact of adverse weather conditions on monthly peak demand should be supplied.

A. The expected monthly peak load for the period of concern of 8990 MW* is

*Loads experienced during the month of June indicate that the forecast is most probably conservative.

reflected in the calculations in Item #9.

FPL has no interruptible load. FPL has approximately 175 MW of curtailable load.

Item #5

Q. A description of any expected system transmission line loading, voltage control, or system stability problem. Identify any extended transmission line or generating unit voltages which may have an impact.

A. Southeast Florida is that area bounded by St. Lucie County on the north, the Florida Everglades on the west, and Dade County on the south. This area encompasses approximately three million people and nearly 70 percent of the total FPL load. The total generating capacity of the area's five active power plants is less than the total area load. As a result, the area is perenially dependent on its transmission interconnections--one 500 kV and one 230 kV line to the west and two 230 kV lines to the north--to serve its needs.

Because of its size, natural boundaries, and dependence on external transmission, Southeast Florida has unique reliability and transient stability characteristics. Accordingly, FPL attempts to operate and control this area within carefully defined limits.

After considerable study and operating experience, it has been established that, to consistently maintain an acceptable level of reliability within Southeast Florida and reduce the likelihood of system islanding, total transmission flows into Southeast Florida must be controlled to a level equal to (1500 MW minus the largest area generating unit). Since the largest generating unit within this area is typically St. Lucie #1 (777 MW) or Turkey Point #3 or #4 (666 MW each), total transmission flows are thereby typically constrained to 700-800 MW.

This operating practice ensures that, for the sudden loss of a large Southeast Florida generating unit, all transmission flows, stability limits, and voltages remain within long term ratings. Moreover, for more serious disturbances, the likelihood of system islanding is substantially reduced, if not avoided.

Table 2 shows Southeast Florida generating reserves under different operating conditions. As shown, TP #3 being off causes reserves to fall to -10.4%. Negative reserves mean the above described limit is violated and consequently the reliability risk associated with any disturbance increases accordingly.

Item #6

Q. The level of current fuels inventories, an assessment of the adequacy of fuel supplies to meet energy requirements during planned nuclear outage, and the expected impact of the nuclear unit outages on these levels.

A. Current and projected fuel inventories are adequate.

Item #7

Q. A description of any expected impact on the regional power supply network.

A. Assuming the "regional" network refers to Peninsular Florida, FPL has not attempted to estimate the impact of the outage of TP 3 on Peninsular Florida.

Item #8

Q. A monthly compilation of the utility's net energy for load for the projected outage period and for the same time period of the previous year (includes details on generation, purchases and sales, and anticipated load). Provide details on any load management or similar activity which might cause significant variations in customer energy requirements.

A. FPL's 1980 estimated and 1979 actual net energy for load for the period

of concern are given below. These figures assume no interchange transactions but do include wholesale sales under our Partial Requirements (PR) and Sale for Resale (SR) rates.

1979 Net Energy For Load

Time Period	Energy (Million kWH)
July	4577
Aug.	4621
Sept.	4462

1980 Estimated Net Energy For Load

Time Period	Energy (Million kWH)
July	4510
Aug.	4885
Sept.	4755

Item #9

Q. A calculation of the anticipated minimum generating reserve margin during each month of the period. The minimum reserve margin shall be calculated as the generating capacity in megawatts available to supply load above the anticipated system peak load for the month. (This calculation should consider system power sales and purchases.) Please relate the reserve margin calculation to its corresponding loss of load probability.

A. Table 2 calculates reserve margins for FPL and Southeast Florida for different time periods and under the stated operating conditions.

A 20 percent reserve margin is generally regarded by the electric utility industry and by those government agencies responsible for reviewing reliability standards, as the minimum reserve level which should be maintained by systems

such as FPL to insure adequacy of generation supplies. The 20 percent reserve margin is essential to protect against unscheduled generating outages, unit deratings, and other contingencies; as well as to maintain, and when necessary supply, spinning reserve commitments.

An examination of Table 2 shows that, during August and September, even under the most favorable conditions--i.e., all FPL units fully available--reserve margins for FPL's system and for Southeast Florida fall below 20 percent (13.0 percent and negative 0.20 percent, respectively). Under operating conditions with TP 3 out of service--reserve margins for FPL fall to approximately 5.9 percent and for Southeast Florida become negative 10.4 percent.

The reserves on the FPL system, particularly in Southeast Florida, are depressed because of the forced delay in the operation of Martin Unit 1 (764 Mw).

As regards Loss of Load Probability (LOLP), FPL analyzes and calculates LOLP on an annual basis. The data base and analytic tools readily available to FPL to calculate LOLP do not lend themselves to weekly or even monthly calculations of LOLP.

In prior LOLP evaluations of the FPL system, it has been determined that acceptable LOLP indices, whether for FPL or for Peninsular Florida, generally correspond to FPL reserve margins above 20 percent.

Q. A statement on the availability of emergency support from contiguous control areas, indicating size of potential support and conditions on availability.

A. The total estimated import capability of the FPL system from the interconnected network is approximately 1000 MW. To protect against the sudden loss of a large FPL generating unit and preclude more serious consequences, FPL must "reserve" out of this total import capability an amount equal to the largest FPL generating unit. Accordingly, the analysis assumes FPL could purchase

(and neighboring systems can collectively sell), on a firm basis, an amount equal to the remaining import capacity (1000 MW minus the largest FPL generating unit). This is the amount used for calculation purposes in Table 2.

FPL SYSTEM -- TABLE 2

Time	Installed Gen Capacity	Maintenance	Net Dependable Capacity	Transmission Imports	Total Resources	Expected Load	Spinning Reserve	Total Gen Requirement	Reserves MW	Reserves %
July	10,557	257[1]	10,300	223	10,523	8,885	320	9,205	1318	14.3
		923[2]	9,634	223	9,857	8,885	320	9,205	652	7.1
Aug.	10,557	257[1]	10,300	223	10,523	8,990	320	9,310	1213	13.0
Sept.		923[2]	9,634	223	9,857	8,990	320	9,310	547	5.9

SOUTHEAST FLORIDA

July	5,893	193[1]	5,700	804	6,504	6,220	224	6,444	60	0.93
		859[2]	5,034	804	5,838	6,220	224	6,444	(606)	(9.4)
Aug.	5,893	193[1]	5,700	804	6,504	6,293	224	6,517	(13)	(0.20)
Sept.		859[2]	5,034	804	5,838	6,293	224	6,517	(679)	(10.4)

[1] Gas Turbines Scheduled Off for Maintenance

[2] Gas Turbines Scheduled Off for Maintenance, Plus Outage of Turkey Point #3

William O. Miller, Chief
License Fee Management Branch, ADM

Date: 5/2/80
Amended Form Date: 5/22/80

FACILITY AMENDMENT CLASSIFICATION - DOCKET NO(S). 50-250 50-251

Licensee: Florida Power and Light Co

Plant Name and Unit(s): Turkey Point Plant Unit Nos. 3 & 4

License No(s): DPR-31 DPR-41 Mail Control No: 800505 0279

Request Dated: 4/29/80 Fee Remitted: Yes ____ No ✓

Assigned TAC No: 13288/9

Licensee's Fee Classification: Class I ____, II ____, III ____, IV ____, V ____, VI ____,
None ✓

Subject: 25% steam generator tube plugging

Amendment No. 57 + 50 Date of Issuance 5/15/80

☐ 1. This request has been reviewed by DOR/DPM in accordance with Section 170.22 of Part 170 and is properly categorized.

☐ 2. This request is incorrectly classified and should be properly categorized as Class ____. Justification for classification or reclassification: ____

☐ 3. Additional information is required to properly categorize the request:

☑ 4. This request is a Class III/I type of action and is exempt from fees because it:

RECEIVED BY LFMB
Date 5/29/80
Log (c)
By
Orig. To
Action Compl
5/30

(a) ____ was filed by a nonprofit educational institution,

(b) ____ was filed by a Government agency and is not for a power reactor,

(c) ____ is for a Class ____ (can only be a I, II, or III) amendment which results from a written Commission request dated ____ for the application and the amendment is to simplify or clarify license or technical specifications, has only minor safety significance, and is being issued for the convenience of the Commission, or

(d) ✓ other (state reason therefor): This is a supplement to the 2/13/80 request (Amendment 54/46 3/14/80) which restored the plants to the pre-ECCS outage status which included both 220% and 25% plugging levels.

D. G. Eisenhut 5/22/80 Darrell G. Eisenhut
Division of Operating Reactors/Project Management

cc by LFMB 5/30/80:
Docket File (2) ✓
Reactor File (2)
Exemption File
S.Varga, ORB-1

☐ THE INITIAL FEE DETERMINATION HAS BEEN REASSESSED AND IS HEREBY AFFIRMED ____.

☑ The above request has been reviewed and is exempt from fees.

W. O. Miller 5/30/80
William O. Miller, Chief Date
License Fee Management Branch

LFMB 6/78

Amendment request attached

7590-01

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NOS. 50-250 AND 50-251

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. 57 to Facility Operating License No. DPR-31, and Amendment No. 50 to Facility Operating License No. DPR-41 issued to Florida Power and Light Company (the licensee), which revised Technical Specifications for operation of Turkey Point Nuclear Generating, Unit Nos. 3 and 4 (the facilities) located in Dade County, Florida. The amendments are effective as of the date of issuance.

The amendments incorporate the results of a revised ECCS analysis for a steam generator tube plugging level of 25%.

The application for the amendments 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 amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments 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 these amendments.

For further details with respect to this action, see (1) the application for amendments dated April 29, 1980, (2) Amendment Nos. 57 and 50 to License Nos. DPR-31 and 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 Licensing.

Dated at Bethesda, Maryland, this 15th day of May, 1980.

FOR THE NUCLEAR REGULATORY COMMISSION

Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

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

May 15, 1980

Docket Nos. 50-250
and 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. 57 to Facility Operating License No. DPR-31 and Amendment No. 50 to Facility Operating License No. DPR-41 for the Turkey Point Nuclear Generating Unit Nos. 3 and 4, respectively. The amendments consist of changes to the Technical Specifications in response to your application transmitted by letter dated April 29, 1980.

These amendments incorporate the results of a revised ECCS analysis for a steam generator tube plugging level of 25%.

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

Sincerely,

Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Enclosures:
1. Amendment No. 57 to DPR-31
2. Amendment No. 50 to DPR-41
3. Safety Evaluation
4. Notice of Issuance

cc: w/enclosures
See next page

cc: Mr. Robert Lowenstein, Esquire
Lowenstein, Newman, Reis and Axelrad
1025 Connecticut Avenue, N.W.
Suite 1214
Washington, D. C. 20036

Environmental and Urban Affairs Library
Florida International University
Miami, Florida 33199

Mr. Norman A. Coll, Esquire
Steel, Hector and Davis
1400 Southeast First National
Bank Building
Miami, Florida 33131

Mr. Henry Yaeger, Plant Manager
Turkey Point Plant
Florida Power and Light Company
P. O. Box 013100
Miami, Florida 33101

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

Bureau of Intergovernmental Relations
660 Apalachee Parkway
Tallahassee, Florida 32304

Resident Inspector
Turkey Point Nuclear Generating Station
U. S. Nuclear Regulatory Commission
Post Office Box 971277
Quail Heights Station
Miami, Florida 33197

Director, Technical Assessment Division
Office of Radiation Programs (AW-459)
U. S. Environmental Protection Agency
Crystal Mall #2
Arlington, Virginia 20460

U. S. Environmental Protection Agency
Region IV Office
ATTN: EIS COORDINATOR
345 Courtland Street, N.W.
Atlanta, Georgia 30308

Mr. Jack Shreve
Office of the Public Counsel
Room 4, Holland Building
Tallahassee, Florida 32304

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

Elizabeth S. Bowers, Esquire,
Chairman
Atomic Safety and Licensing Board
Panel
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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Miami, Florida 33131

Dr. Oscar H. Paris
Atomic Safety and Licensing Board Panel
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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

FLORIDA POWER AND LIGHT COMPANY

DOCKET NO. 50-250

TURKEY POINT NUCLEAR GENERATING UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 57
License No. DPR-31

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

   A. The application for amendment by Florida Power and Light Company (the licensee) dated April 29, 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.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-31 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 57 , 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

Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 15, 1980

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

FLORIDA POWER AND LIGHT COMPANY

DOCKET NO. 50-251

TURKEY POINT NUCLEAR GENERATING UNIT NO. 4

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 50
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 April 29, 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.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-41 is hereby amended to read as follows:

   (B) Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 50 , 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

Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 15, 1980

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 57 TO FACILITY OPERATING LICENSE NO. DPR-31

AMENDMENT NO. 50 TO FACILITY OPERATING LICENSE NO. DPR-41

DOCKET NOS. 50-250 AND 50-251

Revise Appendix A as follows:

Remove Pages	Insert Pages
3.2-3	3.2-3
Figure 3.2-3b	Figure 3.2-3b

reactivity insertion upon ejection greater than 0.3% k/k at rated power. Inoperable rod worth shall be determined within 4 weeks.

b. A control rod shall be considered inoperable if
(a) the rod cannot be moved by the CRDM, or
(b) the rod is misaligned from its bank by more than 15 inches, or
(c) the rod drop time is not met.

c. If a control rod cannot be moved by the drive mechanism, shutdown margin shall be increased by boron addition to compensate for the withdrawn worth of the inoperable rod.

5. CONTROL ROD POSITION INDICATION

If either the power range channel deviation alarm or the rod deviation monitor alarm are not operable rod positions shall be logged once per shift and after a load change greater than 10% of rated power. If both alarms are inoperable for two hours or more, the nuclear overpower trip shall be reset to 93% of rated power.

6. POWER DISTRIBUTION LIMITS

a. Hot channel factors:

(1) With steam generator tube plugging >22% and ≤25%, the hot channel factors (defined in the basis) must meet the following limits at all times except during low power physics tests:

$$F_q(Z) \leq (1.97/P) \times K(Z), \text{ for } P > .5$$

$$F_q(Z) \leq (3.94) \times K(Z), \text{ for } P \leq .5$$

$$F_{\Delta H}^N \leq 1.55\,[1.+0.2\,(1-P)]$$

Where P is the fraction of rated power at which the core is operating; K(Z) is the function given in Figure 3.2-3b; Z is the core height location of F_q.

If F_q, as predicted by approved physics calculations, exceeds 1.97, the power will be limited to the rated power multiplied by the ratio of 1.97 divided by the predicted F_q, or augmented surveillance of hot channel factors shall be implemented.

(2) With steam generator tube plugging ≤22%, the hot channel factors (defined in the basis) must meet the following limits at all times except during low power physics tests:

$$F_q(Z) \leq (1.99/P) \times K(Z), \text{ for } P > .5$$

$$F_q(Z) \leq (3.98) \times K(Z), \text{ for } P \leq .5$$

$$F_{\Delta H}^N \leq 1.55\,[1.+0.2\,(1-P)]$$

Where P is the fraction of rated power at which the core is operating; K(Z) is the function given in Figure 3.2-3a; Z is the core height location of F_q.

Amendment No. 57, Unit 3
Amendment No. 50, Unit 4

HOT CHANNEL FACTOR
NORMALIZED OPERATING ENVELOPE

(for steam generator tube plugging 25% and F_q=1.97)

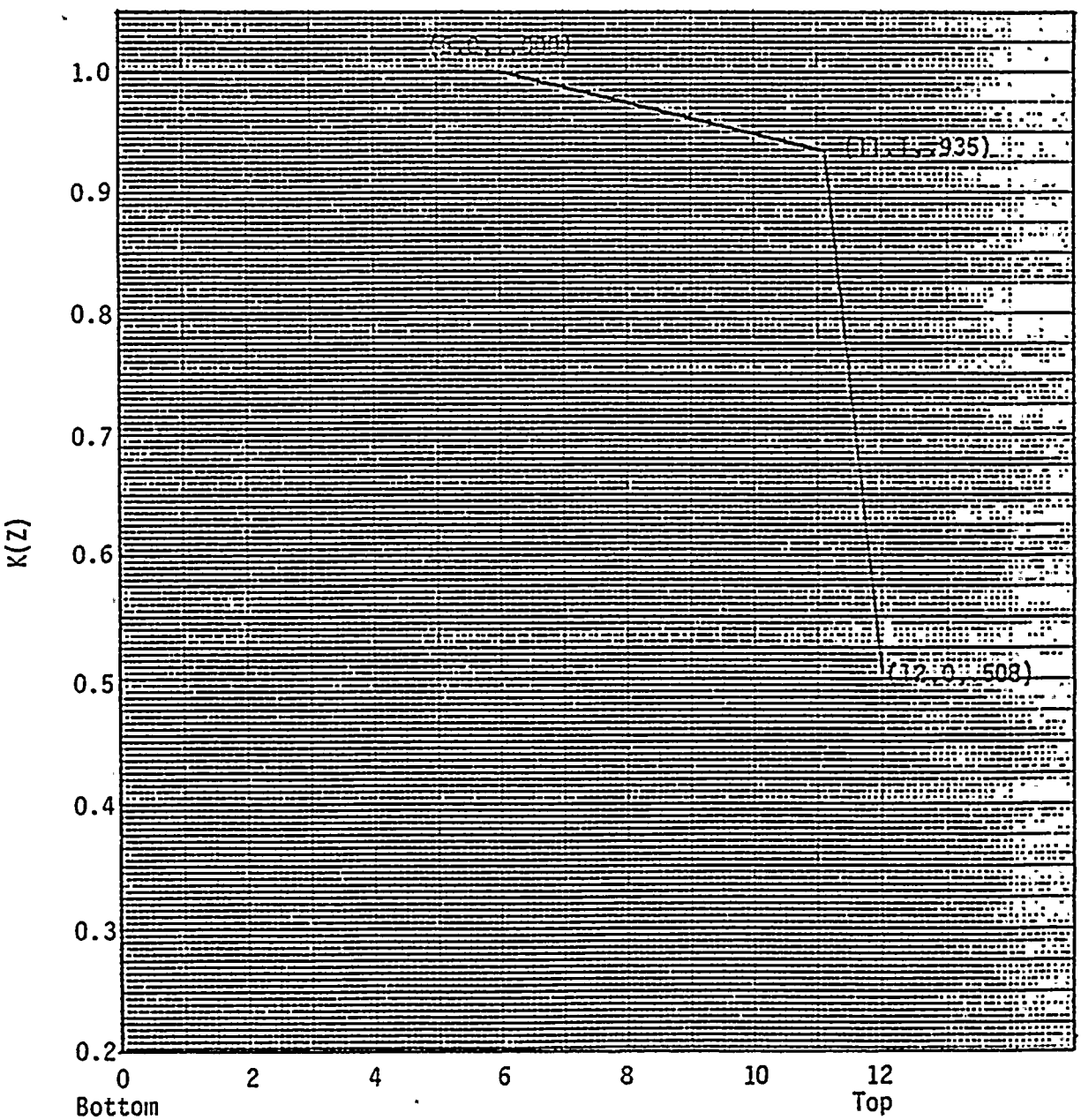

Figure 3.2-3b

Amendment No. 57, Unit 3
Amendment No. 50, Unit 4

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 57 TO FACILITY OPERATING LICENSE NO. DPR-31

AND AMENDMENT NO. 50 TO FACILITY OPERATING LICENSE NO. DPR-41

FLORIDA POWER AND LIGHT COMPANY

TURKEY POINT NUCLEAR GENERATING, UNIT NOS. 3 AND 4

DOCKET NOS. 50-250 AND 50-251

Introduction

By letter dated April 29, 1980 (Reference 1), Florida Power and Light Company (the licensee) requested amendments to Operating License Nos. DPR-31 and DPR-41 for Turkey Point Units 3 and 4. The letter contains a LOCA analysis and proposed Technical Specification changes in connection with the operation of Units 3 and 4 with 25 percent of steam generator tubes plugged and a peaking factor F_Q of 1.97. In addition, the licensee provided sensitivity study indicating that the penalty caused by introducing the new fuel performance models developed by the NRC (Reference 2) is compensated by the conservatisms existing in the present ECCS models (Reference 1) and therefore no reduction of F_Q due to this effect is required.

The changes to the Technical Specifications requested by the licensee are the following:

(a) Specification of F_Q = 1.97 for plant operation with 25 percent of steam generator tubes plugged.

(b) Change of the Hot Channel Factor Normalized Operating Envelope for a steam generator tube plugging level of 25 percent (Figure 3.2-3b)

Since the limiting value of F_Q is below the level at which the excore detectors could provide reliable readings and because the "18 case FAC analyses" performed for both units indicated that the maximum predicted F_Q exceeded the LOCA determined limits, the licensee is required either to operate the plant with the augmented power distribution surveillance or at the suitably reduced power levels.

Evaluation

The licensee has provided an evaluation of the performance of Emergency Core Cooling System (ECCS) for both Units 3 and 4 corresponding to the hot channel peaking factor value of F_Q = 1.97 and assuming a steam generator plugging level of 25 percent, a 5 percent reduction in thermal design flow and a removal of 65°F fuel temperature conservatism in the PAD fuel performance evaluation code. The reduction of thermal design flow was introduced to compensate for an additional hydraulic resistance caused by the plugged steam generator tubes. It is a conservative assumption. The removal of 65°F fuel temperature conservatism is a non-conservative assumption because in itself it would cause the peak cladding temperature to increase. However, other assumptions existing in the PAD code compensate for it and as a result the fuel performance evaluation by the code is conservative. This change has been approved by us in Reference 3.

The LOCA analysis was performed using the February 1978 version of the Westinghouse Evaluation Model (Reference 4) which was reviewed and approved by us (Reference 5). It was performed for a double ended cold leg guillotine break (DECLG) with a discharge coefficient of C_D = 0.4. The licensee has shown in the previous submittal (Reference 6) that this break size corresponds to the highest value of peak cladding temperature and Zr-water reaction. The licensee has also demonstrated that the break size remains unaffected by the number of the steam generator tubes plugged (Reference 7).

The previous analysis for Units 3 and 4 (Reference 8) was performed using the same evaluation model and assuming the same steam generator tube plugging level. However, the value of F_Q was 2.03 for both units. This value was subsequently administratively reduced to 1.87 to compensate for an error discovered in the input to the SATAN computer code, used in LOCA evaluation (Reference 9) and to account for the changes in the fuel performance models (Reference 10).

The currently submitted LOCA analysis includes the input corrections to the SATAN code, but it does not include the changes caused by the modified fuel performance models. The input parameters assumed in the analysis are listed below:

Core Power: 102 percent of 2200 MWt (rated power)
Peak Linear Power: 102 percent of 11.19 KW/ft
Peaking Factor: 1.97
Accumulator Water Volume: 875 cu ft/each

The results of the analysis indicate a peak cladding temperature of 2136°F, a maximum local Zr-water reaction of 6.945 percent and a total Zr-water reaction of less than 0.3 percent. All these values are below the limits specified in 10 CFR 50.46.

The licensee did not include small break analysis since steam generator tubes plugged did not affect significantly the results of the original analysis.

The licensee has provided additional calculations (Reference 1) to assess the potential impact of the recent concerns related to the fuel performance model changes included in draft report NUREG-0630 (Reference 2). Adoption of these changes would produce an increase of the peak cladding temperature by 405°F, due to the fuel burst model change and by 450°F, due to the fuel strain model change. To compensate for these changes and keep the peak cladding temperature below the 2200°F limit, the peaking factor F_Q should be reduced by 0.053. There are, however, two compensating effects which could provide credits offsetting the above mentioned penalties in LOCA analysis. These effects are due to the changes involving the slip and break flow models which have been approved by us for UHI plants after an extensive review. It is estimated that the total benefit of use of these models would be an increase of 0.38 units in F_Q. However, at the present moment, no adequate basis exists for considering horizontal slip. Also an uncertainty exists in translating the phenomena at blowdown to an effect during reflood. It is our current best technical judgment that application of these model changes would result in an increase of F_Q by 0.15 (Reference 11). This value more than offsets the penalties in F_Q and the results of the LOCA analysis submitted by the licensee (Reference 1) could be considered conservative.

The licensee has performed the "18 case FAC analyses" for Unit 3, Cycle 7 and Unit 4, Cycle 6 (Reference 12) because the limiting peaking factor in the LOCA analysis was below the value for which the excore detectors could give reliable measurements. The results of these analyses have indicated that for both units the predicted maximum peaking factor exceeds the limiting value of F_Q. The licensee is therefore required either to limit power to the rated power multiplied by the ratio of 1.97 divided by the predicted peaking factor or to implement the augmented surveillance discussed in Reference 13 and ascertain that the peaking factor would not exceed the limiting value of 1.97. This requirement could be lifted anytime during plant operation if the licensee demonstrates by the "18 case FAC analysis" that the maximum predicted F_Q is within the LOCA determined limit.

Summary

Based on the review of the submitted documents, we conclude that the results of the LOCA analysis performed with $F_Q = 1.97$ are conservative relative to the 10 CFR 50.46 criteria. We consider the resultant changes to the Technical Specifications acceptable for operating Units 3 and 4 with up to a maximum of 25 percent of steam generator tubes plugged.

Environmental Consideration

We have determined that the amendments do 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 amendments involve 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 these amendments.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendments do not involve a significant increase in the probability or consequences of accidents previously considered and do not involve a significant decrease in a safety margin, the amendments do 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: May 15, 1980

References

1. Letter from R. E. Uhrig (FPL) to D. G. Eisenhut (NRC), Serial No. L-80-129, dated April 29, 1980.

2. NUREG-0630, Cladding Swelling and Rupture Models for LOCA analysis, November 1979.

3. NRC Memo from P. S. Check to A. Schwencer, Safety Evaluation by NRR of LOCA Reanalysis for Zion Station, Units 1 and 2, dated March 14, 1980.

4. WCAP-9220, Westinghouse ECCS Evaluation Model, February 1978 Version, February 1978.

5. Letter from J. F. Stolz (NRC) to T. M. Anderson (Westinghouse), dated August 29, 1978.

6. Letter from R. E. Uhrig (FPL) to V. Stello (NRC), dated December 9, 1976.

7. Letter from R. E. Uhrig (FPL) to G. Lear (NRC), Serial No. L-77-217, dated July 11, 1977.

8. Letter from R. E.Uhrig (FPL) to V. Stello (NRC), Serial No. L-78-264, dated August 9, 1978.

9. Letter from A. D. Schmidt (FPL) to J. P. O'Reilly (NRC-Region II), Serial No. PRN-LI-79-414, dated November 15, 1979.

10. Letter from A. D. Schmidt (FPL) to J. P. O'Reilly (NRC-Region II), Serial No. PRN-LI-79-423, dated November 23, 1979.

11. G. N. Lauben (NRC) to R. P. Denise (NRC) Memorandum, "Review Status of Considered Revisions to Vendor ECCS Evaluation Models," dated December 21, 1979.

12. Letter from R. E. Uhrig (FPL) to D. G. Eisenhut (NRC), Serial No. L-80-68 dated March 3, 1980.

13. Letter from R. E. Uhrig (FPL) to V. Stello (NRC, Serial No. L-78-127, dated April 10, 1978.

7590-01

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NOS. 50-250 AND 50-251

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. 57 to Facility Operating License No. DPR-31, and Amendment No. 50 to Facility Operating License No. DPR-41 issued to Florida Power and Light Company (the licensee), which revised Technical Specifications for operation of Turkey Point Nuclear Generating, Unit Nos. 3 and 4 (the facilities) located in Dade County, Florida. The amendments are effective as of the date of issuance.

The amendments incorporate the results of a revised ECCS analysis for a steam generator tube plugging level of 25%.

The application for the amendments 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 amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments 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 these amendments.

For further details with respect to this action, see (1) the application for amendments dated April 29, 1980, (2) Amendment Nos. 57 and 50 to License Nos. DPR-31 and 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 Licensing.

Dated at Bethesda, Maryland, this 15th day of May, 1980.

FOR THE NUCLEAR REGULATORY COMMISSION

Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing