May 29, 1991

Docket Nos. 50-250
and 50-251

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Mr. J. H. Goldberg
President-Nuclear Division
Florida Power and Light Company
P.O. Box 14000
Juno Beach, Florida 33408-0420

Dear Mr. Goldberg:

SUBJECT: TURKEY POINT UNITS 3 AND 4 - ISSUANCE OF AMENDMENTS RE: ACCUMULATOR VOLUME OPERATING BAND (TAC NOS. 79189 AND 79190)

The Commission has issued the enclosed Amendment No. 143 to Facility Operating License No. DPR-31 and Amendment No. 138 to Facility Operating License No. DPR-41 for the Turkey Point Plant, Units Nos. 3 and 4, respectively. The amendments consist of changes to the Technical Specifications in response to your application transmitted by letter dated November 21, 1990.

These amendments revise Section 3/4 5.1 of the Technical Specifications, "Accumulators, Limiting Condition for Operation," by increasing the indicated accumulator operating band from "6545 gallons and 6665 gallons" to "6520 gallons and 6820 gallons."

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

Sincerely,

Original signed by

Rajender Auluck, Sr. Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 143to DPR-31
2. Amendment No.138 to DPR-41
3. Safety Evaluation

cc w/enclosures:
See next page

OFC	LA:PD22	PDII-2	PM:PD22	D:PD22	OGC		
NAME	DMiller	FTalbot	RAuluck:jkd	HBerkow			
DATE	5/7/91	5/2/91	5/13/91	5/8/91	5/13/91		

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Document Name: TURKEY AMEND 79189/90

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DATED: May 29, 1991

AMENDMENT NO. 143 TO FACILITY OPERATING LICENSE NO. DPR-31-TURKEY POINT UNIT 3
AMENDMENT NO. 138 TO FACILITY OPERATING LICENSE NO. DPR-41-TURKEY POINT UNIT 4

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Florida Power & Light Company

St. Lucie Plant

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

FLORIDA POWER AND LIGHT COMPANY

DOCKET NO. 50-250

TURKEY POINT PLANT UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 143
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 November 21, 1990, 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 and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 143, are hereby incorporated in the license. The Environmental Protection Plan contained in Appendix B is hereby incorporated into the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 29, 1991

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. 138
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 November 21, 1990, 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 and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 138 , are hereby incorporated in the license. The Environmental Protection Plan contained in Appendix B is hereby incorporated into the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 29, 1991

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 143 FACILITY OPERATING LICENSE NO. DPR-31

AMENDMENT NO. 138 FACILITY OPERATING LICENSE NO. DPR-41

DOCKET NOS. 50-250 AND 50-251

Revise Appendix A as follows:

Remove Page	Insert Page
3/4 5-1	3/4 5-1

3/4.5 EMERGENCY CORE COOLING SYSTEMS

3/4.5.1 ACCUMULATORS

LIMITING CONDITION FOR OPERATION

3.5.1 Each Reactor Coolant System (RCS) accumulator shall be OPERABLE with:

a. The isolation valve open and its circuit breaker open,

b. An indicated borated water volume of between 6520 and 6820 gallons,

c. A boron concentration of between 1950 and 2350 ppm,

d. A nitrogen cover-pressure of between 600 and 675 psig, and

e. A water level and pressure channel OPERABLE.

APPLICABILITY: MODES 1, 2, and 3*.

ACTION:

a. With one accumulator inoperable, except as a result of a closed isolation valve, restore the inoperable accumulator to OPERABLE status within 4 hours or be in at least HOT STANDBY within the next 6 hours and reduce pressurizer pressure to less than 1000 psig within the following 6 hours.

b. With one accumulator inoperable due to the isolation valve being closed, either immediately open the isolation valve or be in at least HOT STANDBY within 6 hours and reduce pressurizer pressure to less than 1000 psig within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.5.1.1 Each accumulator shall be demonstrated OPERABLE:

a. At least once per 12 hours by:

1) Verifying the indicated borated water volume and nitrogen cover-pressure in the tanks, and

2) Verifying that each accumulator isolation valve is open by control room indication (power may be restored to the valve operator to perform this surveillance if redundant indicator is inoperable).

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*Pressurizer pressure above 1000 psig.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO.143 TO FACILITY OPERATING LICENSE NO. DPR-31

AND AMENDMENT NO.138 TO FACILITY OPERATING LICENSE NO. DPR-41

FLORIDA POWER AND LIGHT COMPANY

TURKEY POINT UNIT NOS. 3 AND 4

DOCKET NOS. 50-250 AND 50-251

1.0 INTRODUCTION

By letter dated November 21, 1990, Florida Power and Light Company (FPL, the licensee), requested amendments to Facility Operating License Nos. DPR-31 and DPR-41 for the Turkey Point Unit 3 and 4 plants. The proposed amendments would change the Technical Specifications (TS) due to modifications to the indicated accumulator operating volume band. The current indicated accumulator volume operating band is from 6,545 gallons to 6,665 gallons for the minimum and maximum values. The proposed change would increase the operating band to between 6,520 gallons and 6,820 gallons for the minimum and maximum values. This change will provide a substantial increase in the indicated setpoint operating margin from approximately 1 inch to 5 inches for the allowable accumulator water borated volume. A telecon was held on February 7, 1991 between the NRC staff and the licensee's staff for clarification and additional information.

2.0 EVALUATION

The licensee presented the results of their evaluation of the impact of the proposed TS change on the pertinent Final Safety Analysis Report (FSAR) accident items. This included the large break loss-of-coolant-accident (LBLOCA), FSAR Chapter 14.3.2; small break loss-of-coolant-accident (SBLOCA), FSAR Chapter 14.3.2; post-LOCA long-term core cooling, FSAR Chapter 14.3.2; LOCA hydraulic forcing functions, FSAR Chapter 14.3.3; hot leg switchover to prevent potential precipitation, FSAR Chapter 6.2; and steam generator tube rupture, FSAR Chapter 14.2.4.

2.1 LBLOCA

The original LBLOCA analysis was performed with the 1981 large break LOCA evaluation model using the best estimate analysis of reflood transients (BART) model. The analysis was performed assuming that each accumulator tank contained a minimum of 6,545 gallons. The original analysis did not take credit for the accumulator water stored in the piping run between the accumulator tank and the first check valve, which amounts to approximately 75 gallons. By conservatively taking credit for only 25 gallons of water from this pipe run, the licensee requested that the TS minimum volume be reduced to 6,520 gallons in each of the accumulator tanks. The NRC staff finds this to be acceptable.

The licensee also requested that the TS maximum accumulator volume be increased from 6,665 gallons to 6,820 gallons. This increase in accumulator volume can be compensated for if it can be shown that the accumulator cover gas pressure provides the force necessary to discharge the increased accumulator contents. The licensee indicated that a calculation by Westinghouse determined that the TS minimum 600 psig nitrogen cover gas pressure was sufficient to discharge the additional water. This was the pressure assumed in the LBLOCA analysis. Also, the licensee stated that even though not required, a Turkey Point procedure specifies that the operating pressure is to be maintained at a minimum of 625 psig. This allows for even more rapid discharge of the accumulators and provides for an additional driving head to reflood the core and provide for an unquantified small benefit in reducing peak clad temperatures. Based on these considerations, the conclusions for the FSAR LBLOCA remain valid.

2.2 SBLOCA

The FSAR SBLOCA analysis for the Turkey Point units was performed using the NRC-approved October 1975 Westinghouse SBLOCA Evaluation Model with the WFLASH computer code. The original analysis was based on each accumulator tank containing a minimum water volume of 6,545 gallons. Even though the licensee has requested a TS reduction of water in each accumulator by 25 gallons to 6,520 gallons, the original analysis is not invalidated, because the water in the connected piping, as explained in Section 2.1, is more than sufficient to make up the difference. Therefore, the accumulators do not empty during the small break accident and the water level remains sufficient to meet the need at the time that the peak clad temperature occurs. The NRC staff finds that the conclusions for the FSAR SBLOCA remain valid.

2.3 Post-LOCA Long-Term Core Cooling

To satisfy the requirements in 10 CFR Part 50, Section 50.46, Paragraph (b), Item (5), post-LOCA long-term cooling is covered in FSAR Chapter 14.3.2. The borated ECCS water provided by the accumulators and the refueling water storage tank (RWST) must have a concentration that, when mixed with other sources of borated and non-borated water, will result in the reactor core remaining subcritical assuming all control rods are out. The proposed TS change involves two accumulator volume conditions: (1) maximum volume increased by 155 gallons to 6,820 gallons, and (2) minimum volume decreased by 25 gallons to 6,520 gallons. Analyses were made for both conditions. For the first condition, it was found that the proposed increase in the water volume of highly borated accumulator water will increase the overall boron concentration in the containment sump following a postulated large break LOCA, thereby improving the margin. For the second condition, the proposed decrease in water volume of highly borated accumulator water was found to have an insignificant effect; the sump boron concentration would still be sufficient to ensure that the core could be maintained subcritical during long-term recirculation. The proposed TS change of allowable accumulator water volume only results in a negligible change (less than 0.1 percent) in the margin to the limits. Therefore, the NRC staff finds that the requirements for post-LOCA long-term core cooling remain satisfied.

2.4 LOCA Hydraulic Forcing Functions

Chapter 14.3.3 of the FSAR considers the blowdown hydraulic forcing functions resulting from a postulated LOCA. At the time the peak hydraulic forcing functions are calculated, the Reactor Coolant System (RCS) pressure is still substantially higher than the accumulator injection pressure. Therefore, the proposed changes in the accumulator water volume will not affect the results of the blowdown hydraulic forcing function analysis as given in the FSAR.

2.5 Hot Leg Switchover to Prevent Potential Boron Precipitation

Hot leg switchover to prevent potential boron precipitation is covered in FSAR Chapter 6.2. A review of the calculations by Westinghouse for the licensee revealed that the proposed increase in the TS limits of the accumulator water volume does not significantly affect the hot leg switchover time. Therefore, the NRC staff finds this acceptable.

2.6 Steam Generator Tube Rupture (SGTR)

The FSAR Chapter 14.2.4 SGTR accident analysis was performed to ensure that the offsite radiation doses remain below the limits in 10 CFR Part 100. Flow from the accumulator does not occur in the SGTR accident analysis as the observed RCS pressure is above the set pressure for accumulator injection. Therefore, the proposed changes in accumulator water volume in the TS for Turkey Point will not affect the results of the FSAR SGTR analysis.

3.0 SUMMARY

The impact of increasing the accumulator volume band for the Turkey Point Units 3 and 4 plants on hot leg switchover to prevent potential boron precipitation (FSAR Chapter 6.2) and FSAR Chapter 14 accidents has been evaluated by the licensee. The former conclusions in the FSAR remain valid and the TS changes have been determined to be acceptable.

4.0 STATE CONSULTATION

Based upon the written notice of the proposed amendments, the Florida State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

These amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration and there has been no public comment on such finding (56 FR 6874). Accordingly, these amendments meet the eligibility criteria

for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: H. Balukjian

Date: May 29, 1991