

December 20, 1997

Mr. T. F. Plunkett
President - Nuclear Division
Florida Power and Light Company
P.O. Box 14000
Juno Beach, Florida 33408-0420

SUBJECT: TURKEY POINT UNITS 3 AND 4 - ISSUANCE OF AMENDMENTS RE: LARGE
BREAK LOSS OF COOLANT ACCIDENT RE-ANALYSIS (TAC NOS. M98013 AND
M98014)

Dear Mr. Plunkett:

The Commission has issued the enclosed Amendment No.195 to Facility Operating License No. DPR-31 and Amendment No.189 to Facility Operating License No. DPR-41 for the Turkey Point Plant, Unit Nos. 3 and 4, respectively. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated February 24, 1997, as supplemented by letters dated April 24 and December 4, 1997, regarding large break loss of coolant accident re-analysis. The clarifying information provided by your December 4, 1997, letter did not affect the U.S. Nuclear Regulatory Commission's original proposed no significant hazards consideration issued after your April 24, 1997 letter.

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

NRC FILE CENTER COPY

Sincerely,

ORIGINAL SIGNED BY:

Richard P. Croteau, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-250
and 50-251

Enclosures:

1. Amendment No.195 to DPR-31
2. Amendment No.189 to DPR-41
3. Safety Evaluation

cc w/enclosures: See next page

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Docket File

PUBLIC

Turkey Pt. Rdg.

B. Boger

G. Hill (4) T-5C-3

F. Orr

ACRS

T. Harris [TLH3] (E-mail SE)

Document Name: G:TURKEY\TP98013.AMD *see previous concurrence

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OFFICE	PDII-3/PM	PDII-3/LA	SRXB	OGG/ALC w/notes	PDII-3/D	C
NAME	RCroteau	BClayton	TCollins *	L. Young		
DATE	12/2/97	12/4/97	09/24/97	12/11/97	12/20/97	

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

December 20, 1997

Mr. T. F. Plunkett
President - Nuclear Division
Florida Power and Light Company
P.O. Box 14000
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LOSS OF COOLANT ACCIDENT RE-ANALYSIS (TAC NOS. M98013 AND M98014)

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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,

A handwritten signature in dark ink, appearing to read "R. Croteau", is written over the typed name.

Richard P. Croteau, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-250
and 50-251

Enclosures:

1. Amendment No. 195 to DPR-31
2. Amendment No. 189 to DPR-41
3. Safety Evaluation

cc w/enclosures:
See next page

Mr. T. F. Plunkett
Florida Power and Light Company

cc:

M. S. Ross, Attorney
Florida Power & Light Company
P.O. Box 14000
Juno Beach, FL 33408-0420

John T. Butler, Esquire
Steel, Hector and Davis
4000 Southeast Financial Center
Miami, Florida 33131-2398

Mr. Robert J. Hovey, Site
Vice President
Turkey Point Nuclear Plant
Florida Power and Light Company
9760 SW. 344th Street
Florida City, FL 33035

Armando Vidal
County Manager
Metropolitan Dade County
111 NW 1 Street, 29th Floor
Miami, Florida 33128

Senior Resident Inspector
Turkey Point Nuclear Generating
Station
U.S. Nuclear Regulatory Commission
P.O. Box 1448
Homestead, Florida 33090

Mr. Bill Passetti
Office of Radiation Control
Department of Health and
Rehabilitative Services
1317 Winewood Blvd.
Tallahassee, Florida 32399-0700

TURKEY POINT PLANT

Mr. Joe Myers, Director
Division of Emergency Preparedness
Department of Community Affairs
2740 Centerview Drive
Tallahassee, Florida 32399-2100

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
61 Forsyth Street, SW., Suite 23T85
Atlanta, GA 30303-3415

Attorney General
Department of Legal Affairs
The Capitol
Tallahassee, Florida 32304

Plant Manager
Turkey Point Nuclear Plant
Florida Power and Light Company
9760 SW. 344th Street
Florida City, FL 33035

Mr. H.N. Paduano, Manager
Licensing & Special Programs
Florida Power and Light Company
P.O. Box 14000
Juno Beach, Florida 33408-0420

Mr. Gary E. Hollinger
Licensing Manager
Turkey Point Nuclear Plant
9760 SW. 344th Street
Florida City, FL 33035

Mr. Kerry Landis
U.S. Nuclear Regulatory Commission
61 Forsyth Street, SW., Suite 23T85
Atlanta, GA 30303-3415



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

FLORIDA POWER AND LIGHT COMPANY

DOCKET NO. 50-250

TURKEY POINT PLANT UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 195
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 February 24, 1997, as supplemented by letters dated April 24 and December 4, 1997, 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.

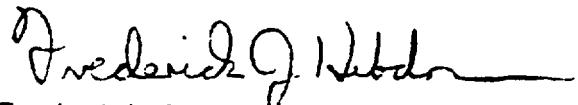
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-31 is hereby amended to read as follows:

(B) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 195, 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 its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Frederick J. Hebdon, Director
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 20, 1997



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

FLORIDA POWER AND LIGHT COMPANY

DOCKET NO. 50-251

TURKEY POINT PLANT UNIT NO. 4

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 189
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 February 24, 1997, as supplemented by letters dated April 24 and December 4, 1997, 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.

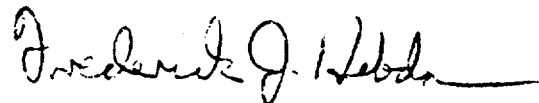
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-41 is hereby amended to read as follows:

(B) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 189, 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 its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Frederick J. Hebdon, Director
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 20, 1997

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 195 FACILITY OPERATING LICENSE NO. DPR-31

AMENDMENT NO. 189 FACILITY OPERATING LICENSE NO. DPR-41

DOCKET NOS. 50-250 AND 50-251

Revise Appendix A as follows:

Remove pages

Insert pages

6-21

6-21

6-22

6-22

PEAKING FACTOR LIMIT REPORT

6.9.1.6 The $W(Z)$ function(s) for Base-Load Operation corresponding to a $\pm 2\%$ band about the target flux difference and/or a $\pm 3\%$ band about the target flux difference, the Load-Follow function $F_2(Z)$ and the augmented surveillance turnon power fraction, P_T , shall be provided to the U.S. Nuclear Regulatory Commission, whenever P_T is < 1.0 . In the event, the option of Baseload Operation (as defined in Section 4.2.2.3) will not be exercised, the submission of the $W(Z)$ function is not required. Should these values (i.e., $W(Z)$, $F_2(Z)$ and P_T) change requiring a new submittal or an amended submittal to the Peaking Factor Limit Report, the Peaking Factor Limit Report shall be provided to the NRC Document Control desk with copies to the Regional Administrator and the Resident Inspector within 30 days of their implementation, unless otherwise approved by the Commission.

The analytical methods used to generate the Peaking Factor limits shall be those previously reviewed and approved by the NRC. If changes to these methods are deemed necessary they will be evaluated in accordance with 10 CFR 50.59 and submitted to the NRC for review and approval prior to their use if the change is determined to involve an unreviewed safety question or if such a change would require amendment of previously submitted documentation.

CORE OPERATING LIMITS REPORT

6.9.1.7 Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT (COLR) before each reload cycle or any remaining part of a reload cycle for the following:

1. Axial Flux Difference for Specification 3.2.1.
2. Control Rod Insertion Limits for Specification 3.1.3.6.
3. Heat Flux Hot Channel Factor - $F_Q(Z)$ for Specification 3/4.2.2.
4. All Rods Out position for Specification 3.1.3.2.
5. Nuclear Enthalpy Rise Hot Channel Factor for Specification 3/4.2.3

The analytical methods used to determine the AFD limits shall be those previously reviewed and approved by the NRC in:

1. WCAP-10216-P-A, "RELAXATION OF CONSTANT AXIAL OFFSET CONTROL F_Q SURVEILLANCE TECHNICAL SPECIFICATION," June 1983.
2. WCAP-8385, "POWER DISTRIBUTION CONTROL AND LOAD FOLLOWING PROCEDURES - TOPICAL REPORT," September 1974.

The analytical methods used to determine $F_Q(Z)$, $F_{\Delta H}$ and the $K(Z)$ curve shall be those previously reviewed and approved by the NRC in:

1. WCAP-9220-P-A, Rev. 1, "Westinghouse ECCS Evaluation Model - 1981 Version," February 1982.
2. WCAP-10054-P-A, (proprietary), "Westinghouse Small Break ECCS Evaluation Model Using the NOTRUMP Code", August 1985.

ADMINISTRATIVE CONTROLS

3. WCAP-10054-P, Addendum 2, Revision 1 (proprietary), "Addendum to the Westinghouse Small Break ECCS Evaluation Model Using the NOTRUMP Code: Safety Injection in the Broken Loop and Improved Condensation Model", October 1995.*
4. WCAP-12945-P, "Westinghouse Code Qualification Document For Best Estimate LOCA Analysis." Volumes I-V, June 1996.**
5. USNRC Safety Evaluation Report, Letter from R. C. Jones (USNRC) to N. J. Liparulo (W), "Acceptance for Referencing of the Topical Report WCAP-12945(P) 'Westinghouse Code Qualification Document for Best Estimate Loss of Coolant Analysis.'" June 28, 1996.**
6. Letter dated June 13, 1996, from N. J. Liparulo (W) to Frank R. Orr (USNRC), "Re-Analysis Work Plans Using Final Best Estimate Methodology."**

The analytical methods used to determine Rod Bank Insertion Limits and the All Rods Out position shall be those previously reviewed and approved by the NRC in:

1. WCAP-9272-P-A, "Westinghouse Reload Safety Evaluation Methodology," July 1985.

The ability to calculate the COLR nuclear design parameters are demonstrated in:

1. Florida Power & Light Company Topical Report NF-TR-95-01, "Nuclear Physics Methodology for Reload Design of Turkey Point & St. Lucie Nuclear Plants".

Topical Report NF-TR-95-01 was approved by the NRC for use by Florida Power & Light Company in:

1. Safety Evaluation by the Office of Nuclear Reactor Regulations Related to Amendment No. 174 to Facility Operating License DPR-31 and Amendment No. 168 to Facility Operating License DPR-41, Florida Power & Light Company Turkey Point Units 3 and 4, Docket Nos. 50-250 and 50-251.

The AFD, $F_Q(Z)$, $F_{\Delta H}$, $K(Z)$, and Rod Bank Insertion Limits shall be determined such that all applicable limits of the safety analyses are met. The CORE OPERATING LIMITS REPORT, including any mid-cycle revisions or supplements thereto, shall be provided upon issuance, for each reload cycle, to the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector, unless otherwise approved by the Commission.

SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Regional Administrator of the Regional Office of the NRC within the time period specified for each report as stated in the Specifications within Sections 3.0, 4.0, or 5.0.

*This reference is only to be used subsequent to NRC approval.

**As evaluated in NRC Safety Evaluation dated



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 195 TO FACILITY OPERATING LICENSE NO. DPR-31
AND AMENDMENT NO. 189 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

In a submittal of February 24, 1997, the Florida Power and Light Company (FPL) requested approval to reference the approved methodology of WCAP-12945-P, Volumes I-V, the Westinghouse (W) generic Best Estimate (BE) Large Break (LB) loss-of-coolant accident (LOCA) analysis evaluation model (EM). That model, as supplemented by various submittals through June 1996 was approved for use in a staff safety evaluation dated June 28, 1996 and is referred to below as W BE LBLOCA EM, MOD 7A Revision 1 (Rev. 1), (approved on June 28, 1996) in licensing documentation for its Turkey Point Units 3 and 4 (Turkey Point) plants, and apply that methodology to the Turkey Point plant licensing analyses. In a letter of April 24, 1997, FPL submitted information to justify use in its initial application of the methodology to Turkey Point of a variant version of the methodology which does not include all the refinements of the as-approved model. By letter dated December 4, 1997, the licensee provided additional clarifying information which did not change the original "no significant hazards" determination made by the NRC following the February 24, 1997 submittal and April 24, 1997 letter.

2. EVALUATION

In its review, the staff considered the acceptability of the W BE LBLOCA EM MOD 7A Rev. 1 for reference in Turkey Point licensing documentation and use in Turkey Point licensing LBLOCA analyses. The staff also performed an analysis specific review of the technical adequacy of the version of the W BE LBLOCA EM used to perform the initial Turkey Point LBLOCA analyses.

2.1 W BE LBLOCA EM MOD 7A Rev. 1 for Reference by Turkey Point

In its submittal of February 24, 1997, FPL requested approval to reference WCAP-12945-P (W BE LBLOCA EM MOD 7A Rev. 1) and supporting documents in licensing documentation for its Turkey Point plants. In its safety evaluation report of June 28, 1996, the staff concluded that this methodology meets the requirements of 10 CFR 50.46, and the staff found that W BE LBLOCA EM MOD 7A Rev. 1 (WCAP-12945-P) is acceptable for use in 3 and 4 loop Westinghouse design licensing applications, including reference in plant technical specifications (TS) and core operating limits reports (COLRs).

Turkey Point Units 3 and 4 are of 3 loop Westinghouse design with no significant differences from the designs for which the methodology was approved. Therefore, the staff finds that the W BE LBLOCA EM MOD 7A Rev. 1 (WCAP-12945-P) is acceptable for use in Turkey Point licensing applications, including reference in the Turkey Point plant TS and COLR.

2.2 Initial Turkey Point Analyses Performed With A Previous Version of W BE LBLOCA EM MOD 7A Rev. 1

In its letter of April 24, 1997, FPL submitted information to justify use in its initial application of the methodology to Turkey Point of a version of the methodology which does not include all the refinements of the as-approved model. The initial conditions distribution function in the methodology was generated using analyses performed with an earlier version of the methodology (MOD 7), and the power distribution response surface was generated using analyses performed with an earlier version of the methodology (MOD 7A). In its letter, the licensee referred to a letter of June 13, 1996, from Mr. N. J. Liparulo (W) to the Nuclear Regulatory Commission (Attention Frank R. Orr) which justified the adequacy of this variant version of the approved methodology on the basis of the final correction performed entirely with the W BE LBLOCA EM MOD 7A Rev. 1 version, and proposed to include that reference in the Administrative Controls section of the Turkey Point TS. The proposed TS reference is acceptable because it provides the description of and justification for the version of the methodology used for the initial Turkey Point LBLOCA analyses.

The staff performed an analysis specific review of the variant methodology, and concluded that the final correction is acceptable because it is performed entirely with the W BE LBLOCA EM MOD 7A Rev. 1 version and the resulting imprecision of the correction is very small. However, the staff extends its approval of the variant version of the EM only to the initial Turkey Point

analyses for as long as they remain applicable per 10 CFR 50.46 requirements and are not superseded by updated analyses. The small imprecision of the correction must be tracked in Turkey Point 10 CFR 50.46 reports, per paragraph (a)(3)(ii), as a permanent change or error. For as long as the methodology used for the initial analyses is referenced, reference to the June 13, 1996, letter will be maintained in appropriate licensing documentation (e.g., TS and/or COLR). Future analyses using the EM must be performed entirely using the W BE LBLOCA EM MOD 7A Rev. 1 version or other fully approved LBLOCA EM.

2.3 SUMMARY

From its review, as discussed in Section 2.1, the staff concludes that the W BE LBLOCA EM MOD 7A Rev. 1 (WCAP-12945-P) is acceptable for use in Turkey Point Units 3 and 4 licensing applications, including reference in the Turkey Point plant TS and COLR.

From its analysis specific review, as discussed in Section 2.2, the staff concludes that the version of the methodology used for the initial Turkey Point analyses is also acceptable, with the following conditions:

- a. This version of the EM may be referenced only for the initial Turkey Point analyses for as long as they remain applicable per 10 CFR 50.46 requirements and are not superseded by updated analyses. Future analyses using the EM must be performed entirely using the W BE LBLOCA EM MOD 7A, Rev. 1 version or other fully approved LBLOCA EM.
- b. The imprecision of the correction must be tracked in Turkey Point 10 CFR 50.46 reports as a permanent change or error, per 10 CFR 50.46 (a)(3)(iii).
- c. Reference to the June 13, 1996, letter will be maintained in appropriate licensing documentation (e.g., TS and/or COLR).

The scope of the approval documented in this safety evaluation is applicable to the use of W BE LBLOCA EM MOD 7A Rev. 1 for analyses of LBLOCA scenarios from the time of event initiation to the time of stable core quench. Other uses of this methodology, such as long term (post-quench) cooling (e.g., during ECCS switchover) analyses, were not specifically requested by the licensee and were therefore not reviewed by the staff. Use of the EM for such other applications by the licensee must be separately requested and reviewed by the NRC.

2.4 TS Changes

The licensee proposed revising section 6.9.1.7, CORE OPERATING LIMITS REPORT, to reference WCAP-12945-P, the US NRC Safety Evaluation Report regarding this WCAP, and the Westinghouse letter dated June 13, 1996, regarding re-analysis work plans using the final best estimate methodology. Use of the revised methodologies will ensure that values for cycle specific parameters are determined such that all applicable Emergency Core Cooling System limits of the safety analysis are met. Conditions a. and c. of section 2.3 are met by the licensee by incorporating the appropriate references in the proposed TS changes. Condition b. is met by following the requirements of 10 CFR 50.46 in that this is a permanent change and, as such, must be tracked in Turkey Point 10 CFR 50.46 reports per 10 CFR 50.46(a)(3)(iii). In addition, a footnote was added to the TS to reference this safety evaluation. Incorporating the three additional references in TS is acceptable since it documents the use of an acceptable methodology for large break LOCA analysis. The staff finds the proposed changes acceptable.

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements 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 (62 FR 30631). The amendment changes recordkeeping or reporting requirements. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and (c)(10). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Frank Orr

Dated: December 20, 1997