

March 30, 1994

Docket Nos. 50-250
and 50-251

DISTRIBUTION
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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:
CONTAINMENT DESIGN PRESSURE (TAC NOS. M86680 AND M86681)

The Commission has issued the enclosed Amendment No. 160 to Facility Operating License No. DPR-31 and Amendment No. 154 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 May 21, 1993, as supplemented January 25, 1994, to correct the containment design pressure.

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)

Richard P. Croteau, Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 160 to DPR-31
2. Amendment No. 154 to DPR-41
3. Safety Evaluation

cc w/enclosures:
See next page

OFC	:LA:PDII-2	:PM:PDII-2	:D:PDII-2	:SCSB	:OGC	:
NAME	:ETana	:LRaghavan	:HBerlow	:RBarratt	:C. Murel	: subject to change
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Mr. J. H. Goldberg
Florida Power and Light Company

Turkey Point Plant

cc:

Harold F. Reis, Esquire
Newman and Holtzinger, P.C.
1615 L Street, N.W.
Washington, DC 20036

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

Jack Shreve, Public Counsel
Office of the Public Counsel
c/o The Florida Legislature
111 West Madison Avenue, Room 812
Tallahassee, Florida 32399-1400

Regional Administrator,
Region II
U.S. Nuclear Regulatory Commission
101 Marietta Street, N.W. Suite 2900
Atlanta, Georgia 30323

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

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

Mr. Thomas F. Plunkett, Site
Vice President
Turkey Point Nuclear Plant
Florida Power and Light Company
P.O. Box 029100
Miami, Florida 33102

Plant Manager
Turkey Point Nuclear Plant
Florida Power and Light Company
P.O. Box 029100
Miami, Florida 33102

Joaquin Avino
County Manager of Metropolitan
Dade County
111 NW 1st Street, 29th Floor
Miami, Florida 33128

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

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

Mr. Edward J. Weinkam
Licensing Manager
Turkey Point Nuclear Plant
P.O. Box 4332
Princeton, Florida 33032-4332

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

DATED: March 30, 1994

AMENDMENT NO. 160 TO FACILITY OPERATING LICENSE NO. DPR-31-TURKEY POINT UNIT 3
AMENDMENT NO. 154 TO FACILITY OPERATING LICENSE NO. DPR-41-TURKEY POINT UNIT 4

Docket File

NRC & Local PDRs

PDII-2 Reading

S. Varga, 14/E/4

G. Lainas, 14/H/3

H. Berkow

E. Tana

L. Raghavan

OGC

D. Hagan, 3302 MNBB

G. Hill (4), P-137

C. Grimes, 11/F/23

ACRS (10)

OPA

OC/LFMB

M. Sinkule, R-II



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. 160
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 May 21, 1993, as supplemented January 25, 1994, 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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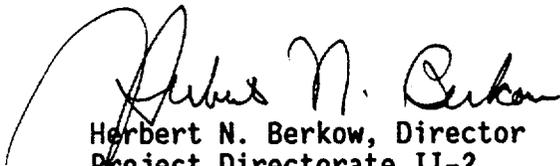
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-31 is hereby amended to read as follows:

(B) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 160, 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



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: March 30, 1994



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. 154
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 May 21, 1993, as supplemented January 25, 1994, 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.

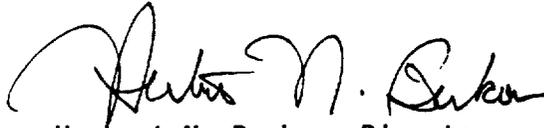
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-41 is hereby amended to read as follows:

(B) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 154, 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



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: March 30, 1994

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 160 FACILITY OPERATING LICENSE NO. DPR-31

AMENDMENT NO. 154 FACILITY OPERATING LICENSE NO. DPR-41

DOCKET NOS. 50-250 AND 50-251

Revise Appendix A as follows:

Remove pages

5-1
B 3/4 6-1
B 3/4 6-2

Insert pages

5-1
B 3/4 6-1
B 3/4 6-2

5.0 DESIGN FEATURES

5.1 SITE

EXCLUSION AREA

5.1.1 The Exclusion Area shall be as shown in Figure 5.1-1.

LOW POPULATION ZONE

5.1.2 The Low Population Zone shall be as shown in Figure 5.1-1.

MAP DEFINING UNRESTRICTED AREAS AND SITE BOUNDARY FOR RADIOACTIVE GASEOUS AND LIQUID EFFLUENTS

5.1.3 Information regarding radioactive gaseous and liquid effluents, which will allow identification of structures and release points shall be as shown in Figure 5.1-2. The UNRESTRICTED AREAS and SITE BOUNDARY shall be as shown in Figure 5.1-1.

5.2 CONTAINMENT

CONFIGURATION

5.2.1 The containment building is a steel-lined, reinforced concrete building of cylindrical shape, with a dome roof and having the following design features:

- a. Nominal inside diameter = 116 feet.
- b. Nominal inside height = 170.6 feet.
- c. Minimum thickness of concrete walls = 3.75 feet.
- d. Minimum thickness of concrete roof = 3.25 feet.
- e. Minimum thickness of concrete floor pad = 10.5 feet.
- f. Nominal thickness of steel liner = 0.25 inches.
- g. Nominal net free volume = 1,550,000 cubic feet.

DESIGN PRESSURE AND TEMPERATURE

5.2.2 The containment building is designed and shall be maintained for a maximum design internal pressure of 55 psig and a temperature of 283°F. The containment building is also structurally designed to withstand an internal vacuum of 2.5 psig.

3/4.6 CONTAINMENT SYSTEMS

BASES

3/4.6.1 PRIMARY CONTAINMENT

3/4.6.1.1 CONTAINMENT INTEGRITY

Primary CONTAINMENT INTEGRITY ensures that the release of radioactive materials from the containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the safety analyses. This restriction, in conjunction with the leakage rate limitation, will limit the SITE BOUNDARY radiation doses to within the dose guideline values of 10 CFR Part 100 during accident conditions.

3/4.6.1.2 CONTAINMENT LEAKAGE

The limitations on containment leakage rates ensure that the total containment leakage volume will not exceed the value assumed in the safety analyses at the peak accident pressure, P_a . As an added conservatism, the measured overall integrated leakage rate is further limited to less than or equal to $0.75 L_a$ during performance of the periodic test to account for possible degradation of the containment leakage barriers between leakage tests.

The surveillance testing for measuring leakage rates is consistent with the requirements of Appendix J of 10 CFR Part 50, as modified by approved exemptions.

3/4.6.1.3 CONTAINMENT AIR LOCKS

The limitations on closure and leak rate for the containment air locks are required to meet the restrictions on CONTAINMENT INTEGRITY and containment leak rate. Surveillance testing of the air lock seals provides assurance that the overall air lock leakage will not become excessive due to seal damage during the intervals between air lock leakage tests. In order to meet the ACTION requirement to lock the OPERABLE air lock door closed, the air lock door interlock may provide the required locking. In addition, the outer air lock door is secured under administrative controls.

3/4.6.1.4 INTERNAL PRESSURE

The limitations on containment internal pressure ensure that : (1) the containment structure is prevented from exceeding its design negative pressure differential of 2.5 psig with respect to the outside atmosphere, and (2) the containment peak pressure does not exceed the design pressure of 55 psig during LOCA conditions.

The maximum analyzed peak pressure calculated for a LOCA event is 49.9 psig assuming an initial containment pressure of 0.3 psig. An initial positive pressure of as much as 3 psi would result in a maximum containment pressure that is less than design pressure and is consistent with the safety analyses.

CONTAINMENT SYSTEMS

BASES

3/4.6.1.5 AIR TEMPERATURE

The limitations on containment average air temperature ensure that the design limits for a LOCA are not exceeded, and that the environmental qualification of equipment is not impacted. If temperatures exceed 120°F, but remain below 125°F for up to 336 hours during a calendar year, no action is required. If the 336-hour limit is approached, an evaluation may be performed to extend the limit if some of the hours have been spent at less than 125°F. Measurements shall be made at all listed locations, whether by fixed or portable instruments, prior to determining the average air temperature.

3/4.6.1.6 CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to ensure that the containment will withstand the maximum analyzed peak pressure of 49.9 psig in the event of a LOCA. The measurement of containment tendon lift-off force, the tensile tests of the tendon wires or strands, the visual examination of tendons, anchorages and exposed interior and exterior surfaces of the containment, and the Type A leakage test are sufficient to demonstrate this capability.

Some containment tendons are inaccessible at one end due to interferences and safety considerations. These tendons, if selected for examination, will be exempted from the full surveillance requirements, and will be subjected only to lift-off testing at the accessible end. Due to tendon configuration, lift-off values may differ considerably at the two ends. Therefore, when only one end is accessible, it is considered that up to a 4% tolerance from the predicted lower limit is acceptable.

The required Special Reports from any engineering evaluation of containment abnormalities shall include a description of the tendon condition, the condition of the concrete (especially at tendon anchorages), the inspection procedures, the tolerances on cracking, the results of the engineering evaluation, and the corrective actions taken.

3/4.6.1.7 CONTAINMENT VENTILATION SYSTEM

The containment purge supply and exhaust isolation valves are required to be closed during a LOCA. When not purging, power to the purge valve actuators will be removed (sealed closed) to prevent inadvertent opening of these valves. Maintaining these valves sealed closed during plant operation ensures that excessive quantities of radioactive materials will not be released via the Containment Purge System.

Leakage integrity tests with a maximum allowable leakage rate for containment purge supply and exhaust supply valves will provide early indication of



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 160 TO FACILITY OPERATING LICENSE NO. DPR-31
AND AMENDMENT NO. 154 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 May 21, 1993, Florida Power & Light Company (FPL or the licensee) proposed license amendments to correct the Technical Specifications (TS) 5.2.2, "Design Pressure and Temperature." The licensee proposed this revision to correct the TS reference to the maximum containment design internal pressure which is 55 psig. The TS stated a maximum internal pressure of 59 psig to accommodate hypothetical, beyond-the-licensing basis scenarios. However, 55 psig was always considered the containment design pressure for the design and licensing basis. Consistent with this request, the licensee proposed other administrative TS corrections and TS Bases changes. By letter dated January 25, 1994, the licensee provided additional clarifying information which did not change the staff's initial no significant hazards determination.

2.0 EVALUATION

General Design Criterion (GDC) 50, "Containment design basis," requires that the containment be designed, with sufficient design margin, to accommodate the pressure and temperature conditions resulting from any loss-of-coolant accident (LOCA). The containment structure which is one of three principal fission barriers ensures that offsite doses resulting from pipe break events within containment do not result in offsite doses in excess of the 10 CFR Part 100 limits.

During the plant licensing, the licensee performed safety analyses for various accident scenarios including LOCA resulting from the maximum hypothetical accident case of a double-ended break of the largest reactor coolant system (RCS) pipe, and a main steamline break (MSLB). The results of these analyses are reported in the Turkey Point Units 3 and 4 Final Safety Analysis Report (FSAR). These analyses resulted in a calculated peak containment pressure less than 49.9 psig for postulated ruptures in the RCS and 42 psig for MSLB. Based on the above analysis and adding a 10% design safety margin, the licensee established a containment design pressure of 55 psig. The 55 psig

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design pressure was approved by the staff in its safety evaluation dated March 15, 1972.

The licensee's sensitivity studies using NRC-approved computer codes performed by Westinghouse and documented in WCAP-12262, "Analysis of Containment Response Following a Main Steam line Break for Turkey Point Units 3 and 4," dated August 1989, resulted in a peak containment pressure of 45.1 psig. This is lower than the licensed peak containment LOCA response pressure of 49.9 psig.

The licensee has further revised the WCAP-12262 MSLB analysis with more realistic assumptions. The revised analysis, "Westinghouse letter 93-JB-GL-5091, Revised MSLB Containment Integrity Licensing Basis Analysis" dated May 18, 1993, assumed plant operation with the feedwater (FW) bypass valve at zero power condition and main steam isolation valve closing (MSIV) time of 5 seconds (which is consistent with the TS) instead of 15 seconds. These assumptions resulted in a less severe condition compared to the mass addition with full main feed flow and slow closing of the MSIV assumed in the WCAP-12262 analysis. This revised analysis used NRC-approved codes and resulted in a peak containment pressure of 42.8 psig. Therefore, the original licensing basis peak containment pressure of 55 psig remains valid.

The 55 psig licensing basis containment design pressure includes a 10% safety margin above the calculated pressure. This safety margin is consistent with the Standard Review Plan (SRP) 6.2.1.1.A, "PWR Dry Containments, Including Subatmospheric Containments," acceptance criteria for plants in the construction stage. For plants at the operating license stage, the SRP states that "...the peak calculated containment pressure following a loss-of-coolant accident, or a steam or FW line break, should be less than containment design pressure" and does not require a safety margin above the peak calculated pressure. Therefore, the 10% safety margin is no longer necessary.

The proposed TS changes do not affect the offsite and control room dose assessments, documented in the UFSAR Section 14.3.5, since they are based on the assumption of fixed containment leakage rates and are independent of either the worst-case analyzed post-accident containment transient or the containment design pressure. Also, the limiting condition for operation (LCO) for containment pressure integrity and leakage, containment airlock operability, and containment ventilation operability are independent of the containment design pressure and are based on a calculated containment peak internal pressure of 49.9 psig. These LCOs are not changed. Consequently, the use of a containment design pressure equal to the original licensing basis value of 55 psig will have no effect on either analyzed offsite dose estimates or current TS surveillance requirements associated with containment integrity and containment leakage.

Based on the above discussions, the staff concludes that the licensing basis for containment design pressure remains at 55 psig. The reference to 59 psig in the TS was a result of beyond-the-licensing basis scenarios. The proposed changes are administrative in nature and will not reduce the containment

structure's licensed design margin of safety. Therefore, the proposed TS changes are acceptable.

3.0 TS Changes

The proposed TS changes and the staff evaluations of them follow:

1. TS 5.2.2 Correct the description for the containment building design pressure from "maximum internal pressure of 59 psig" to read "maximum design internal pressure of 55 psig."

The LCO for containment pressure integrity and leakage, containment airlock operability, and containment ventilation operability are independent of the containment design pressure and are based on calculated containment peak internal pressure of 49.9 psig. These LCOs are not changed. The proposed revision clarifies that the "design" value for containment is 55 psig. Therefore, the proposed change is acceptable.

2. TS BASES 3/4.6.1.4: Change the description in the BASES for the primary containment internal pressure to be consistent with the proposed change in T.S. 5.2.2. The specific changes are as follows:
 - (a) Change the wording "containment peak pressure does not exceed the design pressure of 59 psig during LOCA conditions," to read "containment peak pressure does not exceed the design pressure of 55 psig during LOCA conditions."
 - (b) Change the wording "maximum peak pressure expected to be obtained from a LOCA event is 49.9 psig," to read "maximum analyzed peak pressure calculated for a LOCA event is 49.9 psig."
 - (c) Change the wording "initial positive pressure of as much as 5 psi," to read "initial positive pressure of as much as 3 psi."

These changes are consistent with the proposed change to T.S. 5.2.2. The change in TS BASES 3/4.6.1.4 to limit the bases for initial conditions is consistent with the stated T.S. 3.6.1.4 LCO which states that "primary containment internal pressure shall be maintained [below] +3 psig." Also based on its review of a generic report, "Bechtel Topical Report BN-TOP-3, Performance and Sizing of Pressure Containments" Revision 4, dated March 1983, and applying the Turkey Point conditions, the licensee concluded that the +3 psig initial containment pressure is conservative and will result in a peak calculated containment pressure that is less than the containment design pressure of 55 psig. The proposed changes do not change the containment design pressure and, therefore, the proposed changes are acceptable.

3. TS BASES 3/4.6.1.6: Add the words "analyzed peak" between the words "maximum" and "pressure" such that the revised sentence reads "Structural integrity is required to ensure that the containment will withstand the maximum analyzed peak pressure of 49.9 psig in the event of a LOCA."

The proposed change clarifies that the pressure of 49.9 psig is the licensed transient "analysis" value and not the "design" value for containment. The proposed change is editorial and, therefore, 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 involve a change in the 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 (58 FR 36434). 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 the amendments.

6.0 CONCLUSION

Based on the staff evaluation in Section 2.0 above, the staff concludes that the proposed TS changes are acceptable.

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: L. Raghavan

Date: March 30, 1994