

Docket File

CP11

MARCH 21 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. 56 to Facility Operating License No. DPR-31 and Amendment No. 48 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 in response to your application transmitted by letter dated May 21, 1976, as supplemented on November 2, 1979. Part of your May 21, 1976 request was issued as Amendment Nos. 24 and 23 on April 20, 1977. This action completes our review of the May 21, 1976 and the November 2, 1979 requests.

These amendments revise the reactor coolant pressure-temperature limits to account for neutron irradiation induced increases in reactor vessel metal and ductility temperature.

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

Sincerely,

Original Signed By

AS 3/21/80

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

Enclosures:

1. Amendment No. 56 to DPR-31
2. Amendment No. 48 to DPR-41
3. Safety Evaluation
4. Notice of Issuance

cc: w/enclosures
See next page

*SEE PREVIOUS YELLOW FOR CONCURRENCES

OFFICE	DOR:ORB1*	DOR:ORB1*	DOR:ORB1*	DOR:AD:ORP*	OELD*
SURNAME	MGrotenhuis	jbCSParrish	ASchwencer	WPGammill	SGoldberg
DATE	03/14/80	03/17/80	03/17/80	03/17/80	03/19/80

#18

268

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and 50-251

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AB

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*OK PER ADDITIONAL REFERENCE
IN COVER LETTER TO APRIL 29, 1977
LICENSING ACTION*

OFFICE	DOR:ORB1	DOR:ORB1	DOR:ORB1	DOR:AD/ERP	OELD
SURNAME	MGrotenhuis	CParrish	ASchwencer	WPGammill	Goldberg
DATE	03/17/80	03/17/80	03/17/80	03/17/80	03/19/80



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

March 21, 1980

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and 50-251

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These amendments revise the reactor coolant pressure-temperature limits to account for neutron irradiation induced increases in reactor vessel metal nil ductility temperature.

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

Sincerely,

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

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

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2. Amendment No. 48 to DPR-41
3. Safety Evaluation
4. Notice of Issuance

cc: w/enclosures
See next page

Robert E. Uhrig
Florida Power and Light Company - 2 -

March 21, 1980

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
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Miami, Florida 33199

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Bank Building
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Turkey Point Plant
Florida Power and Light Company
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Miami, Florida 33101

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

Bureau of Intergovernmental Relations
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Tallahassee, Florida 32304

Resident Inspector
Turkey Point Nuclear Generating Station
U. S. Nuclear Regulatory Commission
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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
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Room 4, Holland Building
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Administrator
Department of Environmental
Regulation
Power Plant Siting Section
State of Florida
2600 Blair Stone Road
Tallahassee, Florida 32301

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. 56
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, 1976 as supplemented on November 2, 1979, 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

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 56, 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



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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 21, 1980



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. 48
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, 1976 as supplemented on November 2, 1979, 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-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. 48, 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



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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 21, 1980

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 56 TO FACILITY OPERATING LICENSE NO. DPR-31

AMENDMENT NO. 48 TO FACILITY OPERATING LICENSE NO. DPR-41

DOCKET NOS. 50-250 AND 50-251

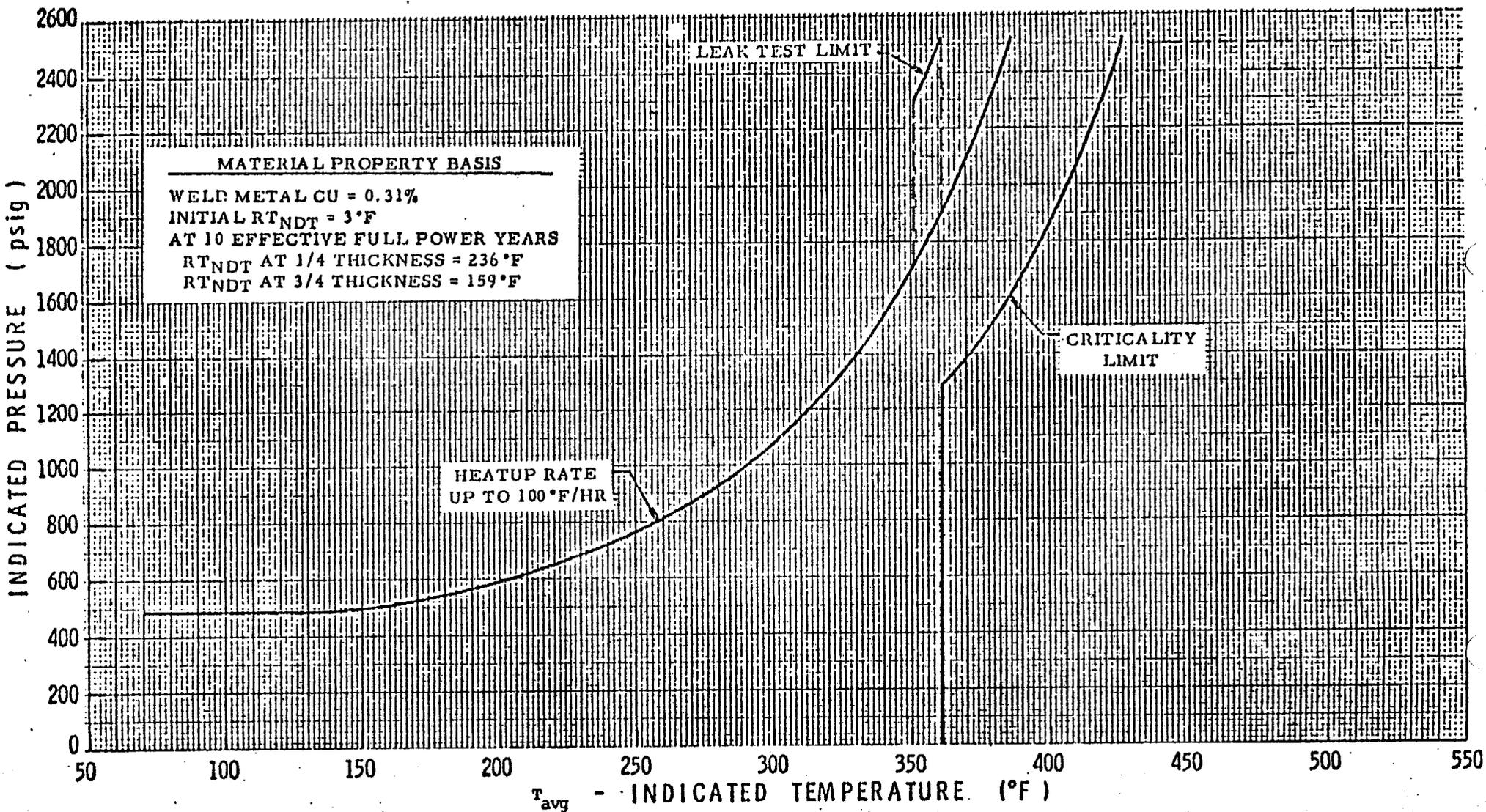
Revise Appendix A as follows:

Remove Pages

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Insert Pages

Figure 3.1-1c
Figure 3.1-2c
Figure 3.1-1d
Figure 3.1-2d



5/21/76

FIGURE 3.1-1c: TURKEY POINT UNIT 3 REACTOR COOLANT HEATUP LIMITATIONS APPLICABLE FOR PERIODS FROM 5 TO 10 EFFECTIVE FULL POWER YEARS.

Amendment No. 56, Unit 3
 Amendment No. 48, Unit 4

5/21/76

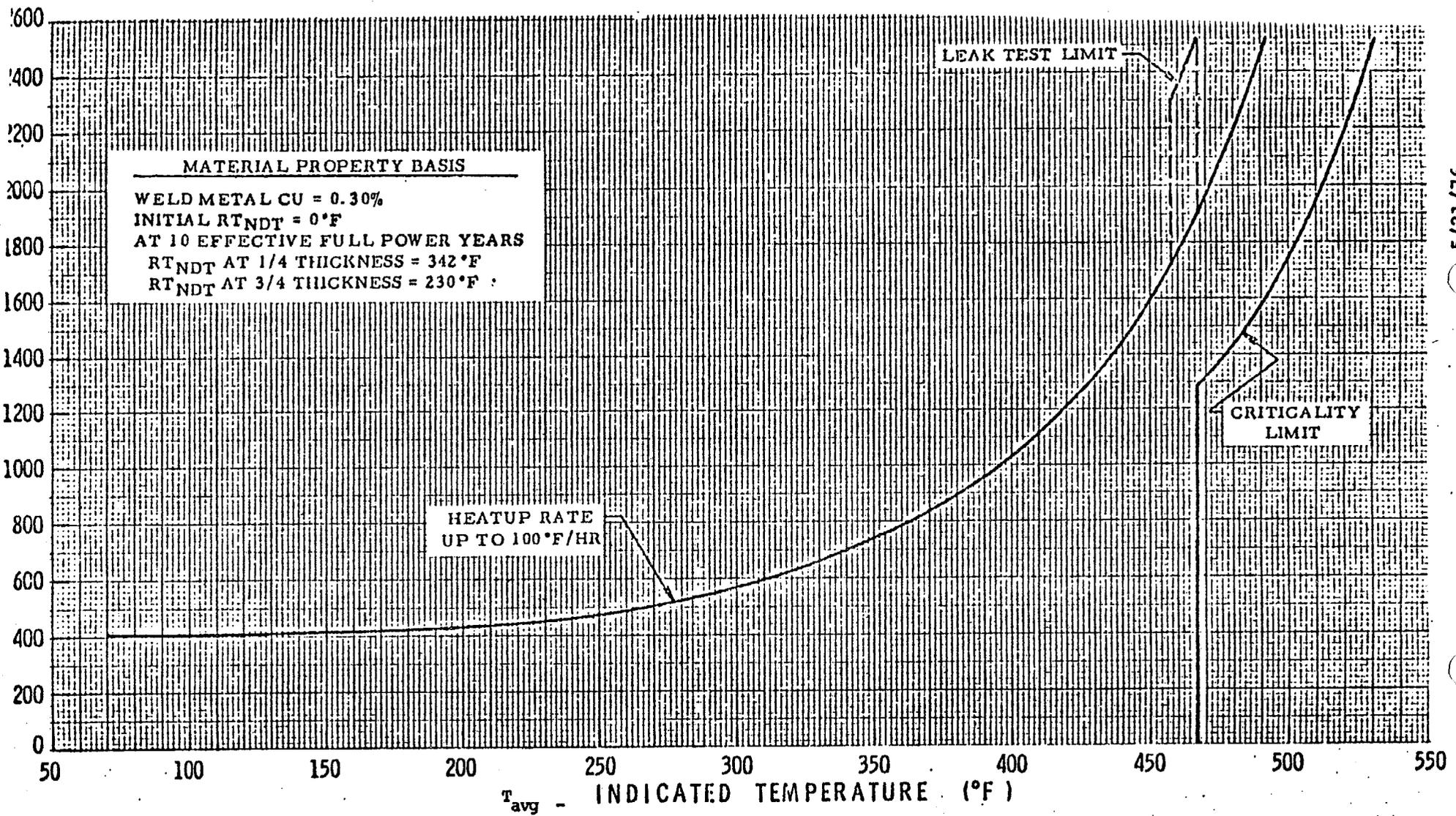


FIGURE 3.1-2c TURKEY POINT UNIT 4 REACTOR COOLANT HEATUP LIMITATIONS APPLICABLE FOR PERIODS FROM 5 TO 10 EFFECTIVE FULL POWER YEARS.

Amendment No. 56, Unit 3
Amendment No. 48, Unit 4

5/21/76

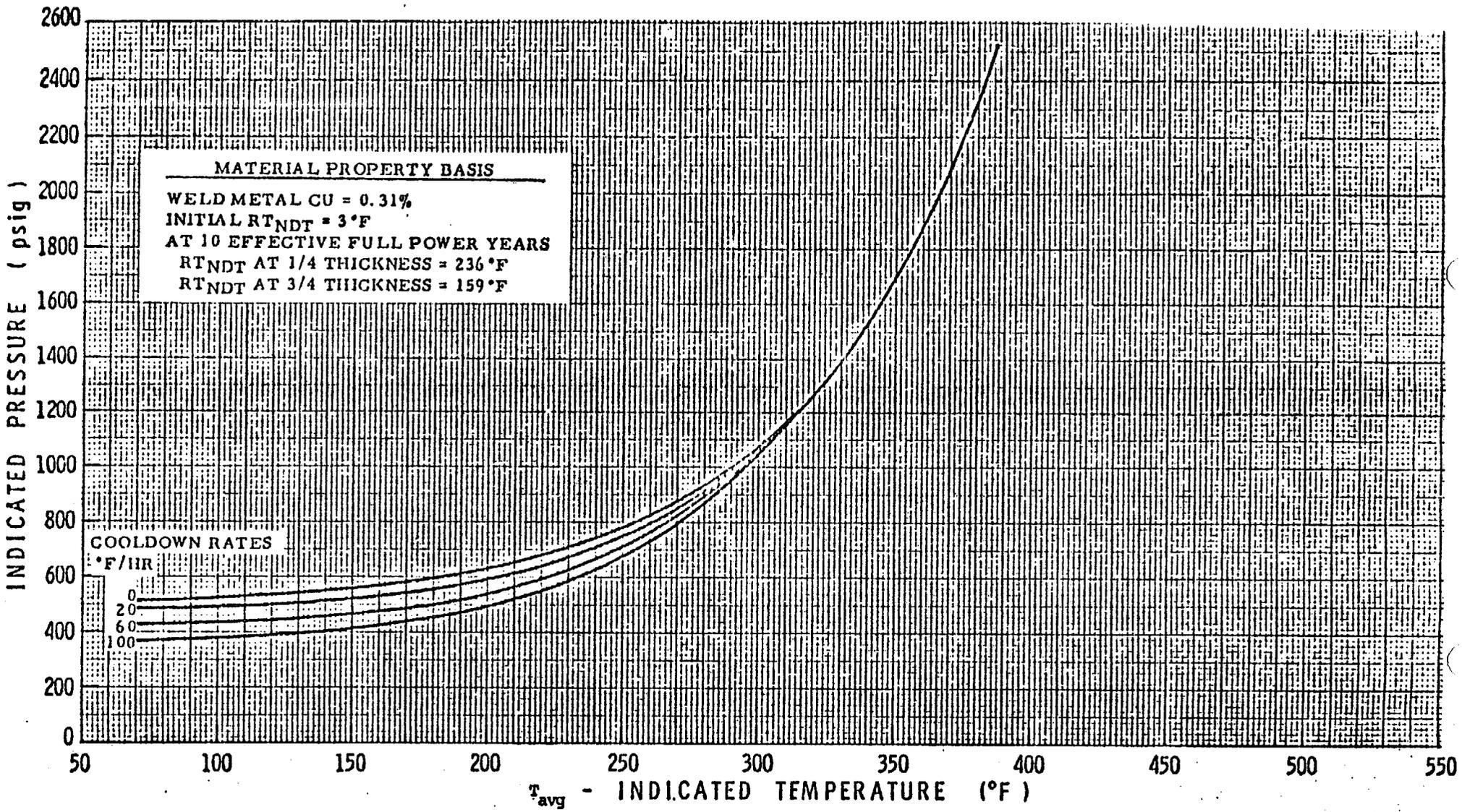


FIGURE 3.1-1d TURKEY POINT UNIT 3 REACTOR COOLANT COOLDOWN LIMITATIONS APPLICABLE FOR PERIODS FROM 5 TO 10 EFFECTIVE FULL POWER YEARS.

Amendment No. 56, Unit 3
Amendment No. 48, Unit 4

5/21/76

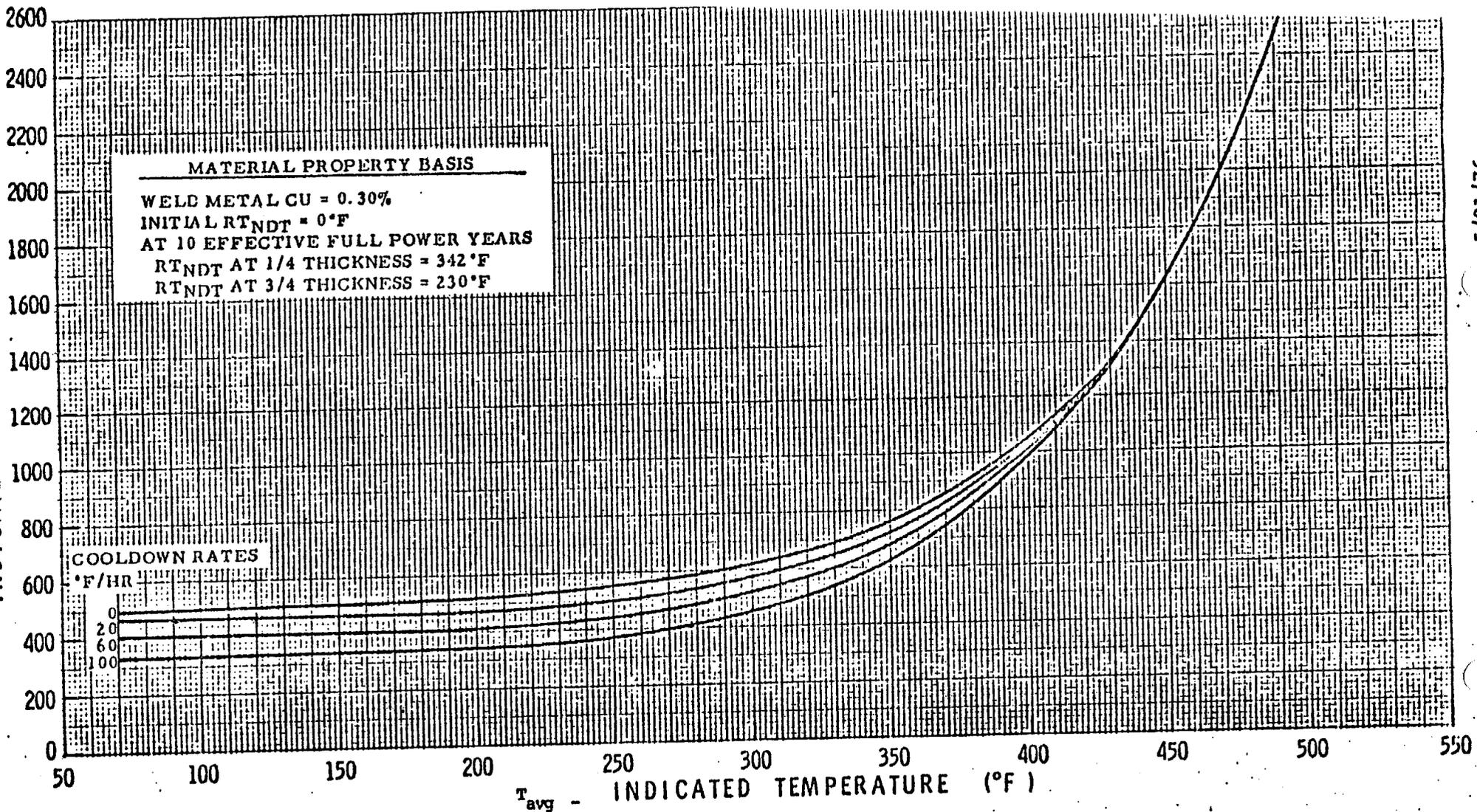


FIGURE 3.1-2d TURKEY POINT UNIT 4 REACTOR COOLDOWN LIMITATIONS APPLICABLE FOR PERIODS FROM 5 TO 10 EFFECTIVE FULL POWER YEARS.

Amendment No. 56, Unit 3
Amendment No. 48, Unit 4



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 56 TO FACILITY OPERATING LICENSE NO. DPR-31
AND AMENDMENT NO. 48 TO FACILITY OPERATING LICENSE NO. DPR-41

FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT PLANT, UNIT NOS. 3 AND 4
DOCKET NOS. 50-250 AND 50-251

Introduction

By letter dated May 21, 1976, as supplemented on November 2, 1979, Florida Power and Light Company (the licensee) proposed a change to the Technical Specifications of the Turkey Point Plant, Units Nos. 3 and 4 regarding pressure-temperature operating limits. These limits are based on calculations of reactor vessel neutron fluence projected for operation through ten EFPY. Calculations were performed in accordance with Appendix G, 10 CFR Part 50 and were based on the test results on Turkey Point material surveillance capsules (capsule T for both vessels). These test results show that weld metal is the limiting material for both vessels.

On April 20, 1977 we issued Amendment Nos. 24 and 23 which approved the operating limits for operating periods up to five effective full power years (EFPY) but deferred approval for the operating limits for periods from five to ten EFPY pending additional examinations.

Discussion

10 CFR Part 50, Appendix G, "Fracture Toughness Requirements," requires that pressure-temperature limits be established for reactor coolant system heatup and cooldown operations, inservice leak and hydrostatic tests, and reactor core operation. These limits are required to ensure that the stresses in the reactor vessel remain within acceptable limits. They are intended to provide adequate margins of safety during any condition of normal operation, including anticipated operational occurrences.

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The pressure-temperature limits depend upon the metallurgical properties of the reactor vessel materials. The properties of material in the vessel belt-line region vary over the lifetime of the vessel because of the effects of neutron irradiation. One principle effect of the neutron irradiation is that it causes the vessel material nil-ductility temperature (RTNDT) to increase with time. The pressure-temperature operating limits must be modified periodically to account for this radiation induced increase in RTNDT by increasing the temperature required for a given pressure. The operating limits for a particular operating period are based on the material properties at the end of the operating period. By periodically revising the pressure-temperature limits to account for radiation damage, the stresses and stress intensities in the reactor vessel are maintained with acceptable limits.

We have reviewed the pressure-temperature operating limits proposed for Turkey Point 3 and 4 and have performed independent calculations to verify compliance with Appendix G, 10 CFR Part 50. Also, we reviewed the results of tests that have been conducted on material surveillance specimens. Two capsules have been removed from each vessel and tested (capsules S and T). We agree that these test results show weld metal to be the limiting vessel material. Weld metal samples in Capsule T of Unit 3 showed an increase in RTNDT of 155°F at the 30 ft-lb level for a neutron exposure equal to 5.7×10^{18} n/cm². Weld metal samples in Capsule T of Unit 4 had an increase in RTNDT of 255°F at a fluence of 6.05×10^{18} n/cm². Capsules S did not contain any weld metal specimens. However, dosimetry from capsules S provided a means to predict fluences on the vessels wall at 10 EFPY. For Unit 3 the fluence at the 1/4 T location is calculated to be 1.4×10^{19} n/cm². For Unit 4 the fluence is estimated to be 1.2×10^{19} n/cm² at 10 EFPY. These values are consistent with previous calculations that we have made.

We calculated radiation damage, increase in RTNDT, from the above fluence estimates and surveillance program results, and by the damage estimates in Regulatory Guide 1.99, Revision 1. Our damage calculations agree with those submitted by the licensee.

From our review we conclude that the proposed pressure-temperature operating limits for Turkey Point 3 and 4 are acceptable for operation through 10 EFPY and are in accordance with Appendix G, 10 CFR Part 50 for this operational period. Compliance with Appendix G in establishing safe operating limitations will ensure adequate safety margins during operation, testing, maintenance and postulated accident conditions and constitute an acceptable basis for satisfying the requirements of NRC General Design Criterion 31, Appendix A, 10 CFR Part 50.

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: March 21, 1980

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NOS. 50-250 AND 50-251FLORIDA POWER AND LIGHT COMPANYNOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 56 to Facility Operating License No. DPR-31, and Amendment No. 48 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 revise the reactor coolant temperature-pressure limits to account for neutron induced increases in reactor vessel metal nil ductility temperature.

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 May 21, 1976, as supplemented November 2, 1979, (2) Amendment Nos. 56 and 48 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 Operating Reactors.

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

FOR THE NUCLEAR REGULATORY COMMISSION



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