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APRIL 10 8 1980
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Docket No. 50-302

Mr. J. A. Hancock
Director, Nuclear Operations
Florida Power Corporation
P. O. Box 14042, Mail Stop C-4
St. Petersburg, Florida 33733

Dear Mr. Hancock:

The Commission has issued the enclosed Amendment No. 29 to Facility Operating License No. DPR-72 for the Crystal River Unit No. 3 Nuclear Generating Plant in response to your request of November 21, 1977 as revised by letter of February 15, 1980.

This amendment revises the Technical Specifications (TS) concerning containment structural integrity in partial response to your requests. The method of selecting the number of tendons for inspection, and detensioning requirements have been modified.

We will continue our review of the remaining proposed changes included in your February 15, 1980 proposal, but in any event unless you request further modification in the interim, compliance with the TS incorporated by this amendment change will meet the minimum sample number requirements for the containment structural integrity test being performed during the current refueling outage.

Changes recommended in Regulatory Guide 1.35 "Inservice Inspection of UngROUTED Tendons in Prestressed Concrete Containments" Proposed Revision 3, April 1979, including the method of selecting the number of tendons for inspection, detensioning requirements, and evaluation criteria served as a basis for your proposed revision to the TS. As discussed with members of your staff, Revision 3 of Regulatory Guide 1.35 may be modified from the proposed revision to reflect information gained from recent containment tendon surveillance testing at operating nuclear facilities. It is anticipated that Revision 3 may recommend the submittal of a report covering the results of tendon inspection if the force-time trend line for tendons, when extrapolated, extends below the minimum design requirements. Additional recording of apparent changes in the end anchorages and adjacent concrete surfaces, for instance a photographic record, may also be recommended in the future. Therefore, you may wish to propose changes to your TS following the issuance of Revision 3.

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Mr. J. A. Hancock

-2-

APRIL 9 1980

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

Sincerely,

Original signed by
Robert W. Reid

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

Enclosures:

1. Amendment No. 29
2. Safety Evaluation
3. Notice of Issuance

cc w/enclosures:
See next page

C-EB:DOR
VNoonan*
4/3/80

STB:DOR
[Signature]
4/4/80

*See previous yellow for
concurrences

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Mr. J. A. Hancock

-2-

In the future. Therefore, you may wish to propose changes to your TS following the issuance of Revision 3.

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

Sincerely,

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

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See next page


C-EB:DOR STS:DOR
VNoonan
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

April 3, 1980

Docket No. 50-302

Mr. J. A. Hancock
Director, Nuclear Operations
Florida Power Corporation
P. O. Box 14042, Mail Stop C-4
St. Petersburg, Florida 33733

Dear Mr. Hancock:

The Commission has issued the enclosed Amendment No. 29 to Facility Operating License No. DPR-72 for the Crystal River Unit No. 3 Nuclear Generating Plant in response to your request of November 21, 1977 as revised by letter of February 15, 1980.

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We will continue our review of the remaining proposed changes included in your February 15, 1980 proposal, but in any event unless you request further modification in the interim, compliance with the TS incorporated by this amendment change will meet the minimum sample number requirements for the containment structural integrity test being performed during the current refueling outage.

Changes recommended in Regulatory Guide 1.35 "Inservice Inspection of UngROUTED Tendons in Prestressed Concrete Containments" Proposed Revision 3, April 1979, including the method of selecting the number of tendons for inspection, detensioning requirements, and evaluation criteria served as a basis for your proposed revision to the TS. As discussed with members of your staff, Revision 3 of Regulatory Guide 1.35 may be modified from the proposed revision to reflect information gained from recent containment tendon surveillance testing at operating nuclear facilities. It is anticipated that Revision 3 may recommend the submittal of a report covering the results of tendon inspection if the force-time trend line for tendons, when extrapolated, extends below the minimum design requirements. Additional recording of apparent changes in the end anchorages and adjacent concrete surfaces, for instance a photographic record, may also be recommended in the future. Therefore, you may wish to propose changes to your TS following the issuance of Revision 3.

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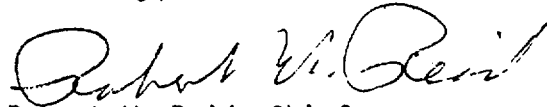
Mr. J. A. Hancock

-2-

April 3, 1980

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

Sincerely,

A handwritten signature in cursive script, appearing to read "Robert W. Reid".

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

Enclosures:

1. Amendment No. 29
2. Safety Evaluation
3. Notice of Issuance

cc w/enclosures:
See next page

Florida Power Corporation

cc w/enclosure(s):

Mr. S. A. Brandimore
Vice President and General Counsel
P. O. Box 14042
St. Petersburg, Florida 33733

Mr. Wilbur Langely, Chairman
Board of County Commissioners
Citrus County
Iverness, Florida 36250

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

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

Crystal River Public Library
Crystal River, Florida 32629

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State of Florida
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Babcock & Wilcox
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Bethesda, Maryland 20014

cc w/enclosures & incoming
dtd: 11/21/77 & 2/15/80
Bureau of Intergovernmental
Relations
660 Apalachee Parkway
Tallahassee, Florida 32304



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

FLORIDA POWER CORPORATION
CITY OF ALACHUA
CITY OF BUSHNELL
CITY OF GAINESVILLE
CITY OF KISSIMMEE
CITY OF LEESBURG
CITY OF NEW SMYRNA BEACH AND UTILITIES COMMISSION, CITY OF NEW SMYRNA BEACH
CITY OF OCALA
ORLANDO UTILITIES COMMISSION AND CITY OF ORLANDO
SEBRING UTILITIES COMMISSION
SEMINOLE ELECTRIC COOPERATIVE, INC.
CITY OF TALLAHASSEE

DOCKET NO. 50-302

CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 29
License No. DPR-72

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Florida Power Corporation, et al (the licensees) dated November 21, 1977 as revised February 15, 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.

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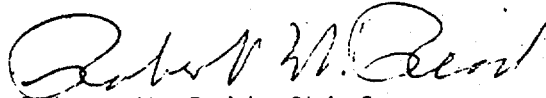
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-72 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 29, are hereby incorporated in the license. Florida Power Corporation 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



Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: April 3, 1980

ATTACHMENT TO LICENSE AMENDMENT NO. 29

FACILITY OPERATING LICENSE NO. DPR-72

DOCKET NO. 50-302

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Pages

3/4 6-8

3/4 6-9a

CONTAINMENT SYSTEMS

AIR TEMPERATURE

LIMITING CONDITION FOR OPERATION

3.6.1.5 Primary containment average air temperature shall not exceed 130°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the containment average air temperature > 130°F, reduce the average air temperature to within the limit within 8 hours, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.5 The primary containment average air temperature shall be the arithmetical average of the temperatures at the following locations and shall be determined at least once per 24 hours:

Location

- a. Column RB-320, elevation 100'
- b. Column RB-320, elevation 125'
- c. Outside secondary shield wall, elevation 180'
- d. Crane access platform, elevation 235'

CONTAINMENT SYSTEMS

CONTAINMENT STRUCTURAL INTEGRITY

LIMITING CONDITIONS FOR OPERATION

3.6.1.6 The structural integrity of the containment shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the structural integrity of the containment not conforming to the above requirements, restore the structural integrity to within the limits within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.6.1 Containment Tendons The containment tendons' structural integrity shall be demonstrated at the end of one, three and five years following the initial containment structural integrity test and at five year intervals thereafter. The tendons' structural integrity shall be demonstrated by:

- a. Determining that a representative sample* of at least 21 tendons (5 dome, 6 vertical, and 10 hoop) each have a lift off force of between 1,249,000 (minimum) and 1,721,000 (maximum) pounds. This test shall include an unloading cycle in which one of the tendons from each group (dome, vertical and hoop) is detensioned to determine if any wires or strands are broken or damaged. If the lift off force of any one tendon in the total sample population is out of the predicted bounds (less than minimum or greater than maximum), an adjacent tendon on each side of the defective tendon shall also be checked for lift off force. If both of these tendons are found acceptable, the surveillance program may proceed considering the single deficiency as unique and acceptable. More than one defective tendon out of the original sample population is evidence of abnormal degradation of the containment structure. Unless there is evidence of abnormal degradation of the containment structure during the first three tests of the tendons, the number of tendons checked for lift off force during subsequent tests may be reduced to a representative sample of at least 11 tendons (3 dome, 3 vertical and 5 hoop).

*For each inspection, the tendons shall be selected on a random but representative basis so that the sample group will change somewhat for each inspection; however, to develop a history of tendon performance and to correlate the observed data, one tendon from each group (dome, vertical, and hoop) may be kept unchanged after the initial selection.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b. Removing one wire or strand from each of a dome, vertical and hoop tendon checked for lift off force and determining that over the entire length of the removed wire or strand that:
1. The tendon wires or strands are free of corrosion, cracks and damage,
 2. There are no changes in the presence or physical appearance of the sheathing filler grease, and
 3. A minimum tensile strength value of 240,000 psi (guaranteed ultimate strength of the tendon material) for at least three wire or strand samples (one from each end and one at mid-length) cut from each removed wire or strand. Failure of any one of the wire or strand samples to meet the minimum tensile strength test is evidence of abnormal degradation of the containment structure.

4.6.1.6.2 End Anchorages and Adjacent Concrete Surfaces The structural integrity of the end anchorages of all tendons inspected pursuant to Specification 4.6.1.6.1 and the adjacent concrete surfaces shall be demonstrated by determining through inspection that no apparent changes have occurred in the visual appearance of the end anchorage or the concrete crack patterns adjacent to the end anchorages. Inspections of the concrete shall be performed during the Type A containment leakage rate tests (Specification 4.6.1.2) while the containment is at its maximum test pressure.

4.6.1.6.3 Containment Surfaces The structural integrity of the exposed accessible interior and exterior surfaces of the containment, including the liner plate, shall be determined during the shutdown for each Type A containment leakage rate test (Specification 4.6.1.2) by a visual inspection of these surfaces. This inspection shall be performed prior to the Type A containment leakage rate test to verify no apparent changes in appearance or other abnormal degradation.

4.5.1.6.4 Containment Dome The containment dome's structural integrity shall be demonstrated at the end of 1 year, 18 months, 2 years, 3 years, 40 +10 months (coincident with the first periodic integrated containment leak rate test), and 5 years following the initial containment structural integrity test. The dome's structural integrity shall be demonstrated by:

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- a. Measuring the elevation difference of 7 dome survey points (1 at the apex; 3 at a radius of ≈ 29 feet at azimuths 90° , 215° and 334° ; and 3 at a radius of ≈ 49 feet at azimuths 90° , 215° and 334°) and 3 benchmarks (on Ring Girder at azimuths 90° , 215° and 334°) along the respective azimuths. These elevation differences shall be compared to the elevation differences established by the Baseline Survey. If the containment is in a normal operation/shutdown mode, the acceptable change in elevation differences will be based on consideration of expected movement and survey accuracy coupled with an acceptable strain level for the radial reinforcement. Changes of a greater magnitude shall require an engineering evaluation. If the containment is in a pressurized mode for a periodic containment integrated leak rate test, the acceptable changes in elevation differences will be similar to that for the initial containment structural integrity test applied to the elevation differences during the periodic containment integrated leak rate test.
- b. Measuring crack widths and plotting crack patterns in the area of the dome 3 feet on either side of azimuths 195° from the apex to the Ring Girder. Cracks wider than 0.010 inches will be plotted and cracks wider than 0.040 inches shall require an engineering evaluation. In addition, a general visual inspection of the entire dome surface area shall be performed.

4.6.1.6.5 Reports Any abnormal degradation of the containment structure detected during the above required tests and inspections shall be reported to the Commission pursuant to specification 6.9.1. This report shall include a description of the tendon condition, the condition of the concrete (especially at tendon anchorages), the inspection procedures, the tolerances on cracking, and the corrective actions taken.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 29 TO FACILITY OPERATING LICENSE NO. DPR-72
FLORIDA POWER CORPORATION, ET AL
CRYSTAL RIVER UNIT NO. 3 NUCLEAR GENERATING PLANT
DOCKET NO. 50-302

Introduction

By letter dated November 21, 1977, Florida Power Corporation (FPC) proposed changes to the primary containment surveillance requirements for Crystal River Unit No. 3. We issued Amendment No. 24 to FPC's operating license on September 6, 1979 which identified the unresolved issue of tendon wire lift-off force. FPC was requested to supply additional information and revised Technical Specifications (TSs), which FPC submitted by letter dated February 15, 1980.

Discussion

The proposed TS incorporate the recommendations of Regulatory Guide 1.35, "Inservice Inspection of Ungrouted Tendons in Prestressed Concrete Containments", Proposed Revision 3, April 1979 including the method of selecting the number of tendons for inspection, detensioning requirements, and evaluation criteria; include testing of partially retensioned dome tendons; and delete the acceptable strain level for radial reinforcement as a required consideration in evaluating changes in elevation.

We have completed our review of the method of selecting the number of tendons for inspection and detensioning requirements. We will continue our review of FPC's February 15, 1980 proposal with our evaluation resulting in a separate licensing action.

Evaluation

The method of selecting the number of tendons for inspection is changed from the current arbitrary numbers of six dome, five vertical, and ten hoop, to a percentage of the tendon population in each group with limitations on the minimum and maximum number of tendons to be inspected. The number of tendons in the representative sample remains the same for the first three tests, but increased from 9 to 11 tendons for subsequent tests if abnormal degradation is not observed. The revised sample size is in conformance with the recommendations in Regulatory Guide 1.35, Proposed Revision 3, therefore the proposed change is acceptable.

The number of tendons requiring detensioning during an inspection is reduced to a minimum of one tendon per group (dome, vertical, hoop) instead of detensioning all the tendons selected for inspection. This change is in conformance with the recommendations in Regulatory Guide 1.35, Proposed Revision 3, therefore it is acceptable.

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Environmental Consideration

We have determined that the amendment does 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 amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(c)(4), that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

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

Dated: April 3, 1980

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-302FLORIDA POWER CORPORATIONCITY OF ALACHUACITY OF BUSHNELLCITY OF GAINESVILLECITY OF KISSIMMEECITY OF LEESBURGCITY OF NEW SMYRNA BEACH AND UTILITIES COMMISSION, CITY OF NEW SMYRNA BEACHCITY OF OCALAORLANDO UTILITIES COMMISSION AND CITY OF ORLANDOSEBRING UTILITIES COMMISSIONSEMINOLE ELECTRIC COOPERATIVE, INC.CITY OF TALLAHASSEENOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 29 to Facility Operating License No. DPR-72, issued to the Florida Power Corporation, City of Alachua, City of Bushnell, City of Gainesville, City of Kissimmee, City of Leesburg, City of New Smyrna Beach and Utilities Commission, City of New Smyrna Beach, City of Ocala, Orlando Utilities Commission and City of Orlando, Sebring Utilities Commission, Seminole Electric Cooperative, Inc., and the City of Tallahassee (the licensees) which revised the Technical Specifications for operation for the Crystal River Unit No. 3 Nuclear Generating Plant (the facility) located in Citrus County, Florida. The amendment is effective as of the date of issuance.

The amendment changes the Technical Specifications concerning containment structural integrity to incorporate guidance on selecting the number of tendons for inspection and detensioning requirements.

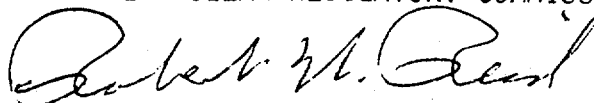
The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment 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 this amendment.

For further details with respect to this action, see (1) application for amendment dated November 21, 1977, as revised by letter dated February 15, 1980, (2) Amendment No. 29 to License No. DPR-72, 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 Crystal River Public Library, Crystal River, Florida. 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 3rd day of April, 1980.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors