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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. 34 to Facility Operating License No. DPR-72 for the Crystal River Unit No. 3 Nuclear Generating Plant. This amendment consists of changes to the Technical Specifications (TS) in response to your application dated July 23, 1980, (Change Request 66).

The amendment modifies the Technical Specifications to delete the power level cutoff requirement of Technical Specification 3/4.1.3.8, xenon reactivity. Other Technical Specification pages which refer to the power level cutoff requirement have been revised accordingly.

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

Sincerely,  
 Original signed by  
 Robert W. Reid

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

Enclosures:

1. Amendment No. 34
2. Safety Evaluation
3. Notice

cc w/enclosures:  
 See next page

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Amendment 60  
 FR. Notice only

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NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

September 24, 1980

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Docket No. 50-302

*Am-34 to*  
*DPR-72*

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. 34 to Facility Operating License No. DPR-72 for the Crystal River Unit No. 3 Nuclear Generating Plant. This amendment consists of changes to the Technical Specifications (TS) in response to your application dated July 23, 1980, (Change Request 66).

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

Sincerely,

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

Enclosures:

1. Amendment No. 34
2. Safety Evaluation
3. Notice

cc w/enclosures:  
See next page

Florida Power Corporation

cc w/enclosure(s):

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St. Petersburg, Florida 33733

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Board of County Commissioners  
Citrus County  
Iverness, Florida 32650

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(AW-459)  
U. S. Environmental Protection Agency  
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Crystal River Public Library  
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Mr. Tom Stetka, Resident Inspector  
U.S. Nuclear Regulatory Commission  
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Crystal River, Florida 32629

cc w/enclosure(s) & incoming dtd.:  
July 23, 1980

Bureau of Intergovernmental Relations  
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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. 34  
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 July 23, 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.

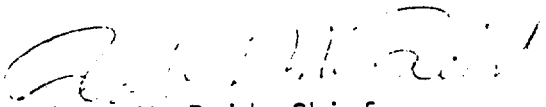
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-72 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 34, 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 Licensing

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: September 24, 1980

ATTACHMENT TO LICENSE AMENDMENT NO. 34

FACILITY OPERATING LICENSE NO. DPR-72

DOCKET NO. 50-302

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

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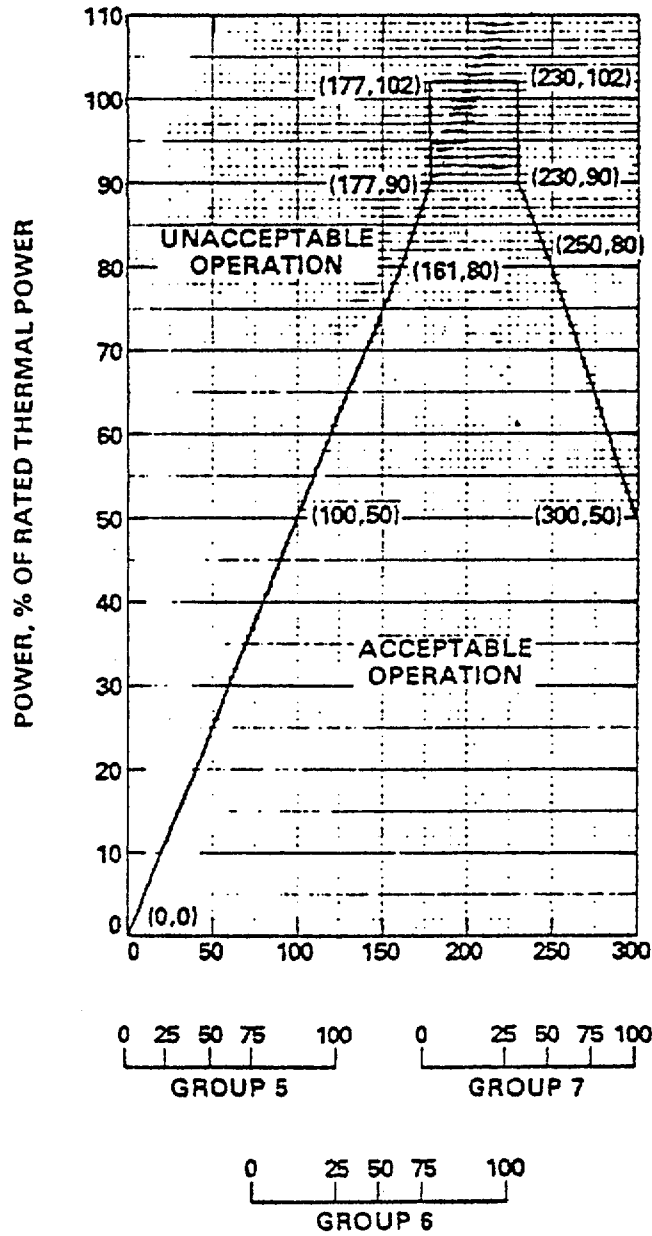


FIGURE 3.1-1

REGULATING ROD GROUP INSERTION LIMITS FOR 4 PUMP  
OPERATION FROM 0 EFPD TO 250 ± 10 EFPD

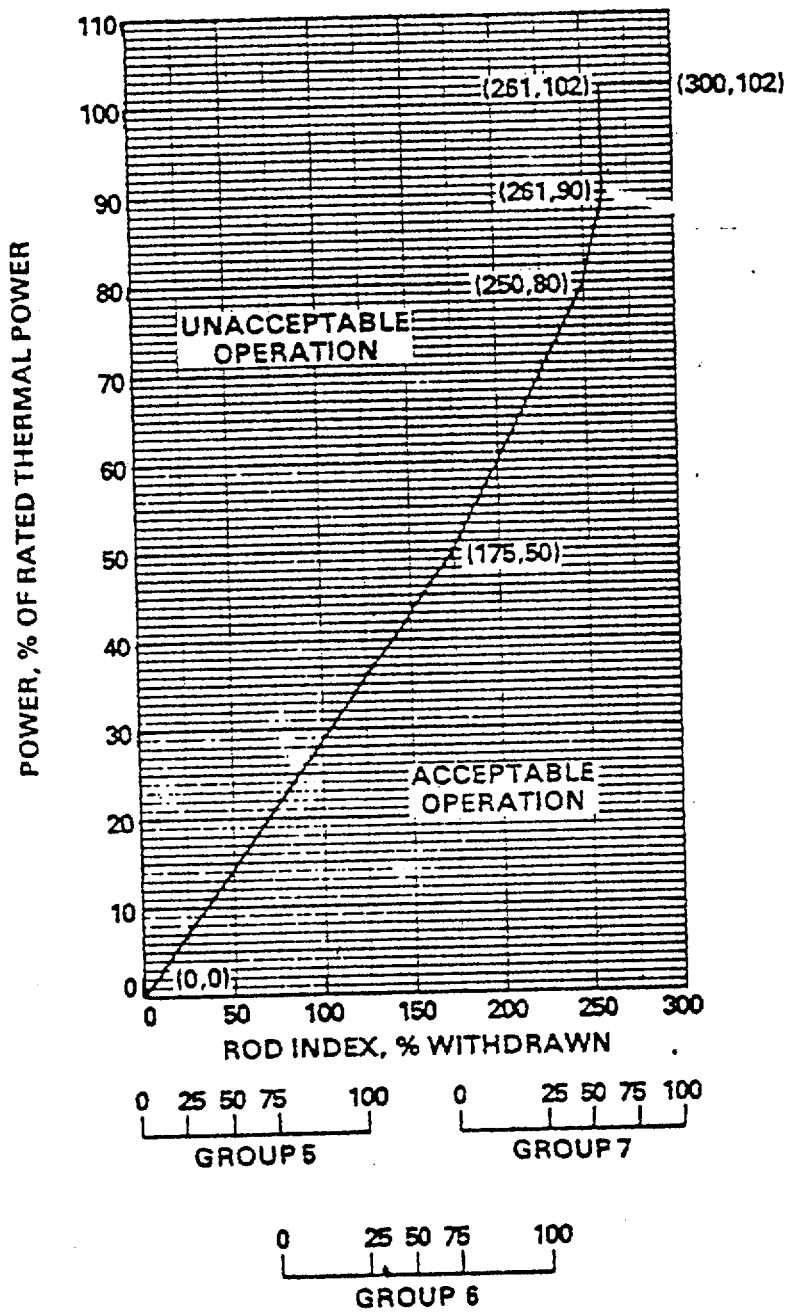


FIGURE 3.1-2

REGULATING ROD GROUP INSERTION LIMITS FOR  
4 PUMP OPERATION AFTER  $250 \pm 10$  EFPD

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## REACTIVITY CONTROL SYSTEMS

### BASES

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#### 3/4.1.2 BORATION SYSTEMS (Continued)

The boron capability in Modes 4 and 5 is based on a potential moderator dilution accident and is sufficient to provide a SHUTDOWN MARGIN of 3.0%  $\Delta k/k$  after xenon decay and a cooldown from 200°F to 140°F. This condition requires either 300 gallons of 11,600 ppm boron from the boric acid storage system or 1608 gallons of 2270 ppm boron from the borated water storage tank. To envelop future cycle BMST contained borated water volume requirements, a minimum volume of 13,500 gallons is specified.

The contained water volume limits include allowance for water not available because of discharge line location and other physical characteristics. The limits on contained water volume, and boron concentration ensure a pH value of between 7.2 and 11.0 of the solution sprayed within containment after a design basis accident. The pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion cracking on mechanical systems and components.

The OPERABILITY of one boron inject on system during REFUELING ensures that this system is available for reactivity control while in MODE 6.

#### 3/4.1.3 MOVABLE CONTROL ASSEMBLIES

The specifications of this section (1) ensure that acceptable power distribution limits are maintained, (2) ensure that the minimum SHUTDOWN MARGIN is maintained, and (3) limit the potential effects of a rod ejection accident. OPERABILITY of the control rod position indicators is required to determine control rod positions and thereby ensure compliance with the control rod alignment and insertion limits.

The ACTION statements which permit limited variations from the basic requirements are accompanied by additional restrictions which ensure that the original criteria are met. For example, misalignment of a safety or regulating rod requires a restriction in THERMAL POWER. The reactivity worth of a misaligned rod is limited for the remainder of the fuel cycle to prevent exceeding the assumptions used in the safety analysis.

The position of a rod declared inoperable due to misalignment should not be included in computing the average group position for determining the OPERABILITY of rods with lesser misalignments.

## REACTIVITY CONTROL SYSTEMS

### BASES

#### 3/4.1.3 MOVABLE CONTROL ASSEMBLIES (Continued)

The maximum rod drop time permitted is consistent with the assumed rod drop time used in the safety analyses. Measurement with  $T_{avg} \geq 525^{\circ}\text{F}$  and with reactor coolant pumps operating ensures that the measured drop times will be representative of insertion times experienced during a reactor trip at operating conditions.

Control rod positions and OPERABILITY of the rod position indicators are required to be verified on a nominal basis of once per 12 hours with frequent verifications required if an automatic monitoring channel is inoperable. These verification frequencies are adequate for assuring that the applicable LCO's are satisfied.

The limitation on Axial Power Shaping Rod insertion is necessary to ensure that power peaking limits are not exceeded.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 34 TO FACILITY OPERATING LICENSE NO. DPR-72

FLORIDA POWER CORPORATION, ET AL  
CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT

DOCKET NO. 50-302

Introduction

By letter dated July 23, 1980, Florida Power Corporation (FPC) proposed a change to the Crystal River Unit 3 (CR-3) Technical Specifications (TSs) to delete the power level cutoff requirement of TS 3/4.1.3.8. xenon reactivity.

Evaluation

The power level cutoff and accompanying TS requiring a hold at that level when returning to full power after a power reduction from above the power level cutoff were established to permit the effects of the xenon transient on power peaking to be dissipated prior to going to full power. Conservative calculations were performed by FPC. The power transient leading to the largest effect on power peaking was analyzed (the "Design Power Transient"). Instantaneous return to power from the low power portion of the transient was assumed. No restrictions were placed on part-length rod motions during the transient.

FPC has performed analyses making use of actual maneuvering practice to obtain the peaking penalty associated with the transient xenon. They find that adequate margin exists to Loss of Coolant Accident (LOCA) limits without holding at the power level cutoff. Specifics of the analyses performed were not given nor were quantitative results. Nevertheless, we find the proposed change to be acceptable for the present authorized power level of CR-3 for the following reasons:

1. The analyses were performed for a core power of 2595 MWt (2544x1.02) while core power is limited to 2452 MWt,
2. The peak heat generation rate during the transient occurs at approximately mid-core height where the margin to limits is greatest,
3. Present analysis methods (BAW-10122A, "Normal Operating Controls", November 1979) typically do not require the power hold for 205 fuel assembly feed-and-bleed plants, and
4. Violations of the linear heat generation operating limits do not, of themselves, lead to violations of thermal limits.

Prior to approval of this change for cycles in which the core power is to be above 2452 MWt, we will require more detailed information on the differences between the analyses which show that the power level cutoff may be changed to 100% of full power and those showing the necessity for a 90% of full power cutoff.

In summary, we conclude that deleting the power level cutoff is acceptable for the current authorized power level for Crystal River Unit 3, but further information will be required before implementing the change for cycles in which the power would be higher than 2452 MWt.

#### 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 in 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 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: September 24, 1980



UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-302FLORIDA POWER CORPORATION, ET ALNOTICE OF ISSUANCE OF AMENDMENT TO FACILITY  
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 34 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 of 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.

This amendment modifies the Technical Specifications to delete the power level cutoff requirement of Technical Specification 3/4.1.3.8, xenon reactivity, for the currently authorized power level.

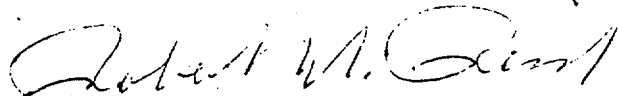
The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter 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 the issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated July 23, 1980, (2) Amendment No. 34 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, DC 20555, 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, DC 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 24th day of September , 1980

FOR THE NUCLEAR REGULATORY COMMISSION



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