

February 12, 1992

Docket No. 50-302

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Mr. Percy M. Beard, Jr.
Senior Vice President,
Nuclear Operations
Florida Power Corporation
ATTN: Manager, Nuclear
Operations Licensing
P. O. Box 219-NA-2I
Crystal River, Florida 32629

Dear Mr. Beard:

SUBJECT: CRYSTAL RIVER UNIT 3 - ISSUANCE OF AMENDMENT RE: NEGATIVE MODERATOR
TEMPERATURE COEFFICIENT (TAC NO. M81526)

The Commission has issued the enclosed Amendment No.139 to Facility Operating
License No. DPR-72 for the Crystal River Unit No. 3 Nuclear Generating Plant
(CR-3). This amendment consists of changes to the Technical Specifications
(TS) in response to your application dated August 15, 1991.

This amendment relocates the negative moderator temperature coefficient limit
from the TS to the Core Operating Limits Report (COLR).

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)

Harley Silver, Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No. 139 to DPR-72
- 2. Safety Evaluation

cc w/enclosures:
See next page

OFC	:LA:PDII-2	:PM:PDII-2	:D:PDII-2	:OGC	:SRXB
NAME	:D. Miller	:H. Silver	:H. Berkow	:R. Jones	
DATE	:1/24/92	:1/24/92	:1/29/92	:1/31/92	:1/27/92

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Mr. Percy M. Beard
Florida Power Corporation

Crystal River Unit No.3
Generating Plant

cc:

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DATED: February 12, 1992

AMENDMENT NO. 139
TO FACILITY OPERATING LICENSE NO. DPR-72-CRYSTAL RIVER UNIT 3

Docket File
NRC & Local PDRs
PDII-2 Reading
S. Varga, 14/E/4
G. Lainas, 14/H/3
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R. Jones



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. 139
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 August 15, 1991, 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:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 139, 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 its date of issuance and shall be implemented within 30 days of issuance.

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: February 12, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 139

FACILITY OPERATING LICENSE NO. DPR-72

DOCKET NO. 50-302

Replace the following pages of the Appendix "A" Technical Specifications with the attached 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.

Remove

3/4 1-4
6-15

Insert

3/4 1-4
6-15

REACTIVITY CONTROL SYSTEMS

BORON DILUTION

LIMITING CONDITION FOR OPERATION

3.1.1.2 The flow rate of reactor coolant through the Reactor Coolant System shall be ≥ 2700 gpm whenever a reduction in Reactor Coolant System boron concentration is being made.

APPLICABILITY: All MODES.

ACTION:

With the flow rate of reactor coolant through the Reactor Coolant System < 2700 gpm, immediately suspend all operations involving a reduction in boron concentration of the Reactor Coolant System.

SURVEILLANCE REQUIREMENTS

4.1.1.2 The flow rate of reactor coolant through the Reactor Coolant System shall be determined to be ≥ 2700 gpm within one hour prior to the start of and at least once per hour during a reduction in the Reactor Coolant System boron concentration by either:

- a. Verifying at least one reactor coolant pump is in operation,
or
- b. Verifying that at least one DHR pump is in operation and supplying ≥ 2700 gpm through the Reactor Coolant System.

REACTIVITY CONTROL SYSTEMS

MODERATOR TEMPERATURE COEFFICIENT

LIMITING CONDITION FOR OPERATION

- 3.1.1.3 The moderator temperature coefficient (MTC) shall be:
- a. Less positive than $0.9 \times 10^{-4} \Delta k/k/^\circ F$ whenever THERMAL POWER is $< 95\%$ of RATED THERMAL POWER,
 - b. Less positive than $0.0 \times 10^{-4} \Delta k/k/^\circ F$ whenever THERMAL POWER is $\geq 95\%$ of RATED THERMAL POWER, and
 - c. Equal to or less negative than the limit provided in the CORE OPERATING LIMITS REPORT at RATED THERMAL POWER.

APPLICABILITY: MODES 1 and 2*#.

ACTION:

With the moderator temperature coefficient outside any of the above limits, be in at least HOT STANDBY within 6 hours.

SURVEILLANCE REQUIREMENTS

4.1.1.3.1 The MTC shall be determined to be within its limits by confirmatory measurements. MTC measured values shall be extrapolated and/or compensated to permit direct comparison with the above limits.

4.1.1.3.2 The MTC shall be determined at the following frequencies and THERMAL POWER Conditions during each fuel cycle.

- a. Prior to initial operation above 5% of RATED THERMAL POWER, after each fuel loading.
- b. At any THERMAL POWER, within 7 days after reaching a RATED THERMAL POWER equilibrium boron concentration of 300 ppm.

*With $K_{eff} \geq 1.0$.

#See Special Test Exception 3.10.2.

ADMINISTRATIVE CONTROLS

MONTHLY OPERATING REPORT

6.9.1.6 Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis to the Document Control Desk, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the Regional Office, submitted no later than the 15th of each month following the calendar month covered by the report.

CORE OPERATING LIMITS REPORT

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

- 3.1.1.3.c Negative Moderator Temperature Coefficient Limit
- 3.1.3.6 Regulating Rod Insertion Limits
- 3.1.3.7 Rod Program
- 3.1.3.9 Axial Power Shaping Rod Insertion Limits
- 3.2.1 AXIAL POWER IMBALANCE
- 3.2.4 QUADRANT POWER TILT

The analytical methods used to determine the core operating limits addressed by the individual Technical Specifications shall be those previously reviewed and approved by the NRC, specifically:

- 1) BAW-10122A Rev. 1, "Normal Operating Controls", May 1984
- 2) BAW-10116A, "Assembly Calculations and Fitted Nuclear Data", May 1977
- 3) BAW-10117P-A, "Babcock & Wilcox Version of PDQ User's Manual", January 1977
- 4) BAW-10118A, "Core Computational Techniques and Procedures", December 1979
- 5) BAW-10124A, "FLAME 3 - A Three-Dimensional Nodal Code for Calculating Core Reactivity and Power Distributions", August 1976
- 6) BAW-10125A, "Verification of Three-Dimensional FLAME Code", August 1976
- 7) BAW-10152A, "NOODLE - A Multi-Dimensional Two-Group Reactor Simulator", June 1985
- 8) BAW-10119, "Power Peaking Nuclear Reliability Factors", June 1977
- 9) The methodology for Rod Program received NRC approval in the Safety Evaluation Report dated January 31, 1990.

The core operating limits shall be determined so that all applicable limits (e.g., fuel thermal-mechanical limits, core thermal-hydraulic limits, ECCS

ADMINISTRATIVE CONTROLS

limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met.

The CORE OPERATING LIMITS REPORT, including any mid-cycle revision 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.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 139

TO FACILITY OPERATING LICENSE NO. DPR-72

FLORIDA POWER CORPORATION, ET AL.

CRYSTAL RIVER UNIT NO. 3 NUCLEAR GENERATING PLANT

DOCKET NO. 50-302

1.0 INTRODUCTION

By letter dated August 15, 1991, Florida Power Corporation (FPC or the licensee) requested an amendment to the Technical Specifications (TS) appended to Facility Operating License No. DPR-72 for the Crystal River Unit No. 3 Nuclear Generating Plant (CR-3). The proposed amendment would relocate the negative moderator temperature coefficient (MTC) limit from the TS to the Core Operating Limits Report (COLR).

In accordance with Generic Letter (GL) 88-16, License Amendment No. 125 issued on January 31, 1990, replaced certain cycle-specific parameter limits in the TS with a reference to the COLR. The COLR was also added to the Definitions section of the TS, and to the reporting requirements of the Administrative Controls section (TS 6.9.1.7). This section requires that the COLR be submitted to NRC upon issuance or revision, that cycle-specific parameter limits therein be established using NRC-approved methodologies, and that these limits be consistent with all applicable limits of the safety analysis. Individual TS sections retained the requirement that the parameter involved be maintained within the limits provided in the COLR.

2.0 EVALUATION

The negative MTC limit is a cycle-specific parameter limit, and therefore its relocation to the COLR falls under the purview of GL 88-16. The proposed change is in accordance with GL 88-16 in that TS 3.1.1.3 would retain the requirement that the negative MTC be maintained within the limits specified in the COLR. In addition, the negative MTC limit would be added to TS 6.9.1.7 and be

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