

November 9, 1990

Docket No. 50-335

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Mr. J. H. Goldberg
Executive Vice President
Florida Power and Light Company
P.O. Box 14000
Juno Beach, Florida 33408-0420

Dear Mr. Goldberg:

SUBJECT: ST. LUCIE UNIT 1 - ISSUANCE OF AMENDMENT RE: AXIAL SHAPE INDEX
LIMITS (TAC NO. 76173)

The Commission has issued the enclosed Amendment No. 106 to Facility Operating License No. DPR-67 for the St. Lucie Plant, Unit No. 1. This amendment consists of changes to the Technical Specifications in response to your application dated March 9, 1990, as supplemented September 24, 1990.

This amendment provides greater operational flexibility at lower power by expanding the Axial Shape Index (ASI) limits for the Departure from Nucleate Boiling (DNB) and Local Power Density (LPD) Limiting Conditions for Operation (LCOs) and the LPD Limiting Safety System Setpoints (LSSS) (Technical Specification Figure 2.2-2), the LPD LCO (Technical Specification Figure 3.2-2), and the DNB LCO (Technical Specification Figure 3.2-4).

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

Jan A. Norris, Senior Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 106 to DPR-67
2. Safety Evaluation

cc w/enclosures:
See next page

OFC	:LA:PDII-2	:PM:PDII-2	:D:PDII-2	:OGC	:	:
NAME	:DME/ter	:JNorris/jkd	:HBerkov	:	:	:
DATE	:10/23/90	:10/27/90	:10/27/90	:10/17/90	:	:

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DATED: November 9, 1990

AMENDMENT NO. 106 TO FACILITY OPERATING LICENSE NO. DPR-67 - ST. LUCIE, UNIT 1

~~Docket File~~

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

FLORIDA POWER & LIGHT COMPANY

DOCKET NO. 50-335

ST. LUCIE PLANT UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 106
License No. DPR-67

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Florida Power & Light Company, (the licensee) dated March 9, 1990, as supplemented September 24, 1990 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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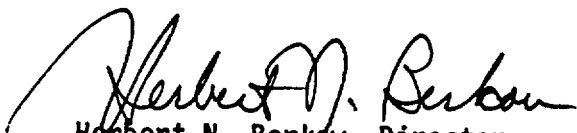
2. Accordingly, Facility Operating License No. DPR-67 is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and by amending paragraph 2.C.(2) to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 106, 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



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: November 9, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 106
TO FACILITY OPERATING LICENSE NO. DPR-67
DOCKET NO. 50-335

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.

Remove Pages

2-7
3/4 2-4
3/4 2-15

Insert Pages

2-7
3/4 2-4
3/4 2-15

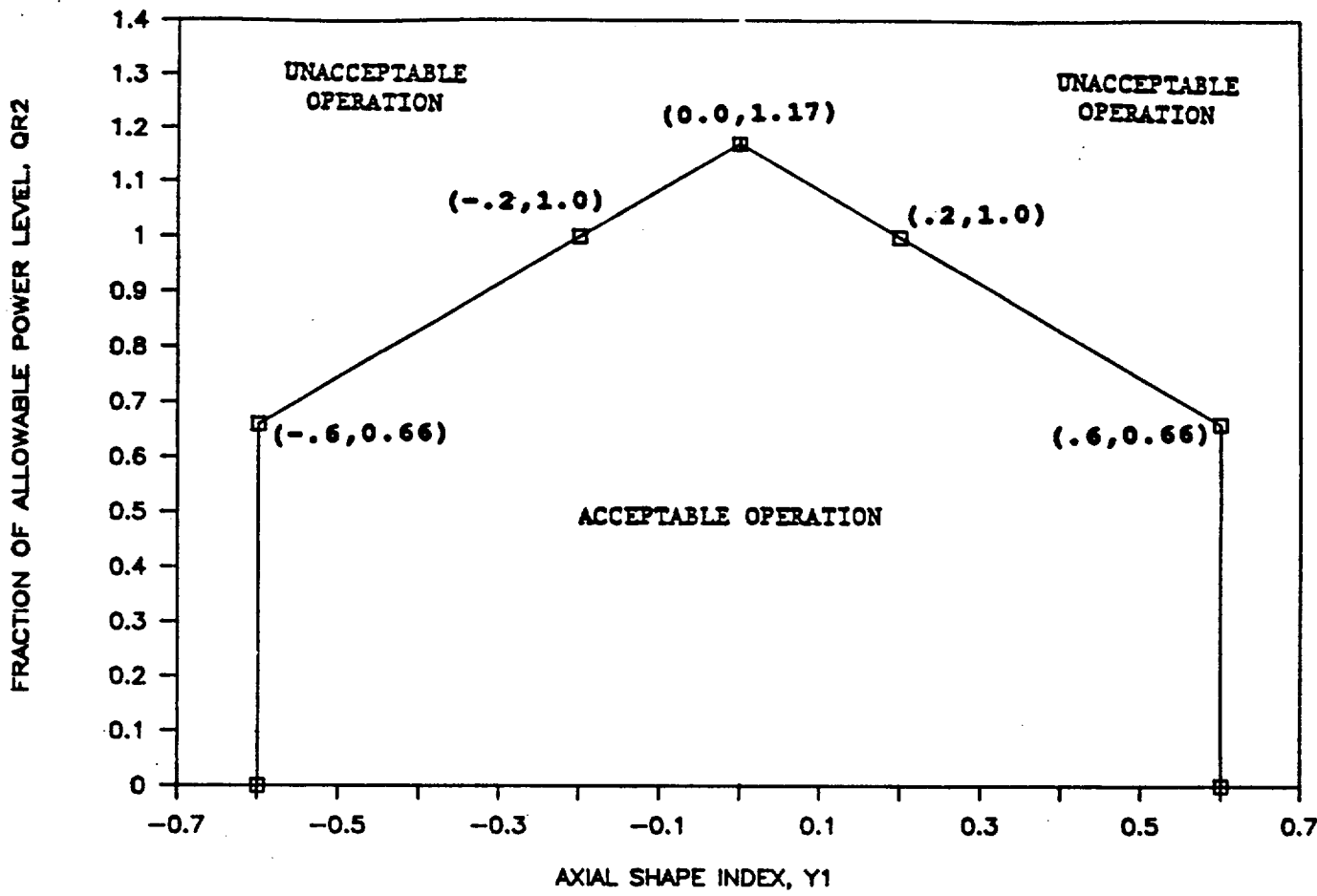


FIGURE 2.2-2

LOCAL POWER DENSITY- HIGH TRIP SETPOINT PART 2 (QR2 Versus Y1)

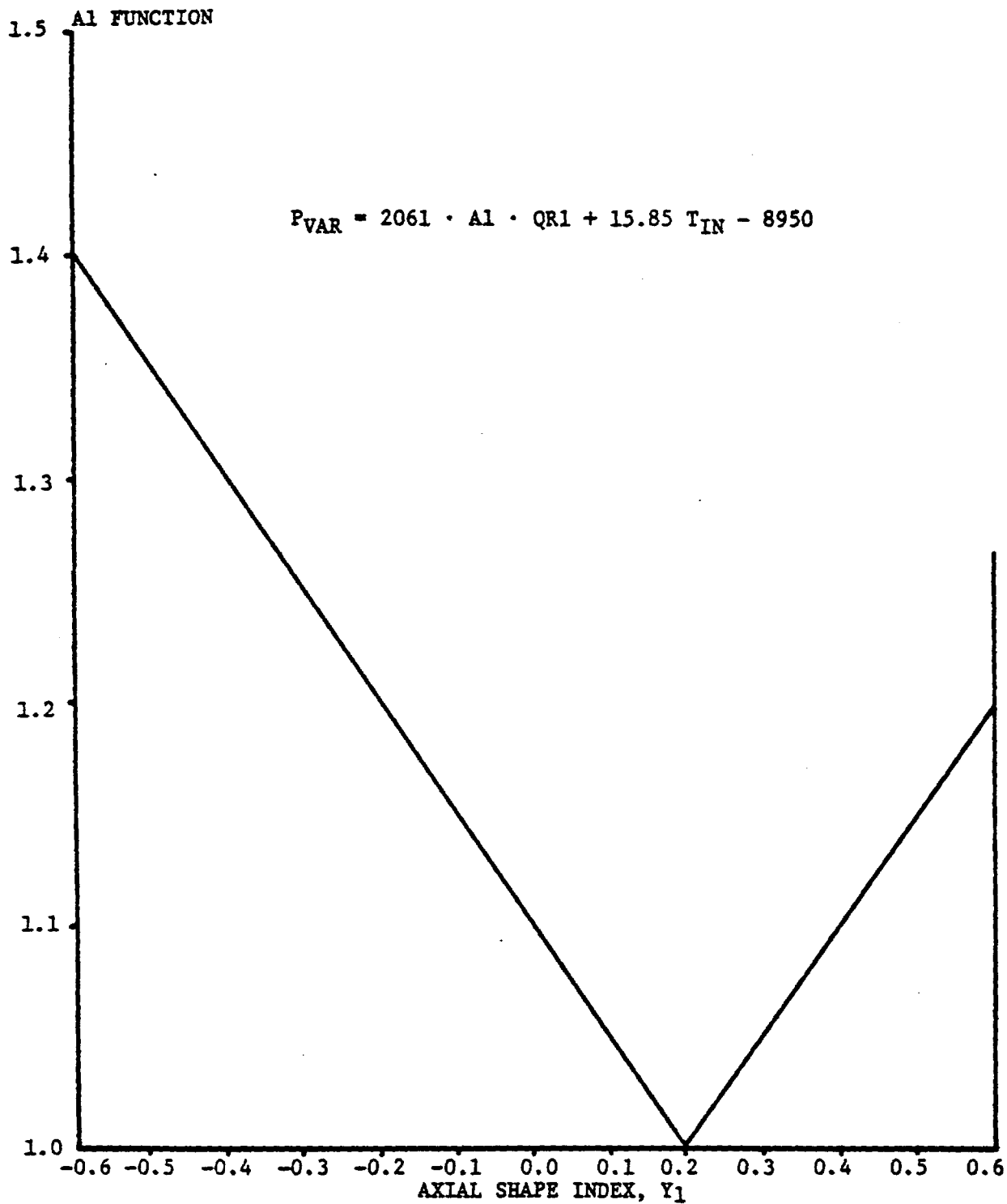
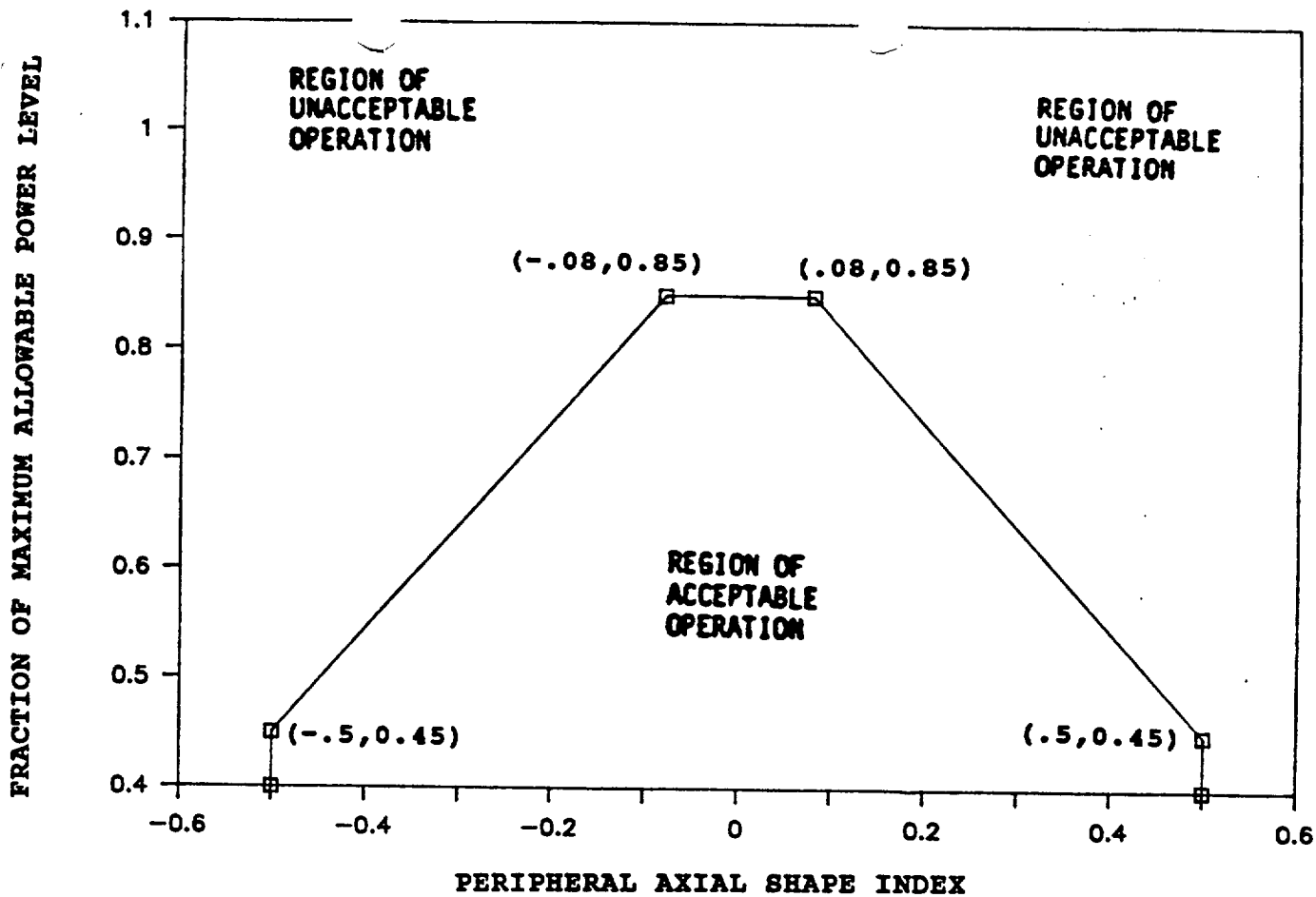


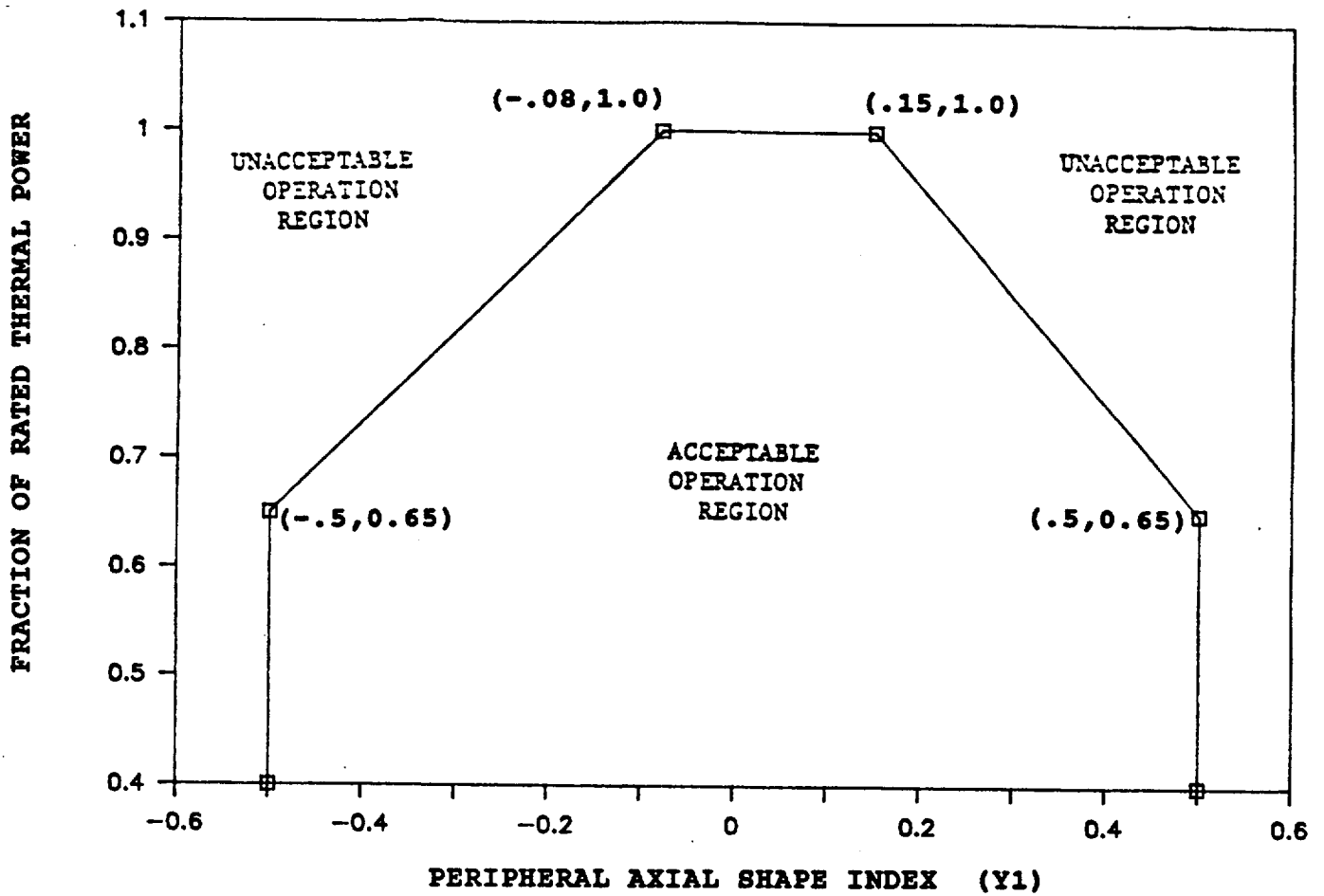
FIGURE 2.2-3

Thermal Margin/Low Pressure Trip Setpoint



(NOT APPLICABLE BELOW 40% POWER)

FIGURE 3.2-2
AXIAL SHAPE INDEX VS. MAXIMUM ALLOWABLE POWER
LEVEL PER SPECIFICATION 4.2.1.3



(NOT APPLICABLE BELOW 40% POWER)

FIGURE 3.2-4

AXIAL SHAPE INDEX Operating Limits With
4 Reactor Coolant pumps Operating



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 106

TO FACILITY OPERATING LICENSE NO. DPR-67

FLORIDA POWER & LIGHT COMPANY

ST. LUCIE PLANT, UNIT NO. 1

DOCKET NO. 50-335

1.0 INTRODUCTION

By letter dated March 9, 1990, as supplemented September 24, 1990, Florida Power and Light Company (FPL) submitted proposed modifications to the St. Lucie Unit 1 Technical Specifications. Specifically, the proposed changes would modify the Local Power Density (LPD) Limiting Safety System Setpoints (LSSS) in Technical Specification Figure 2.2-2, the LPD Limiting Condition for Operation (LCO) in Technical Specification Figure 3.2-2, and the Departure from Nucleate Boiling (DNB) LCO in Technical Specification Figure 3.2-4.

The September 24, 1990 letter provided supplemental information which did not alter the staff's initial determination of no significant hazards consideration as noticed in the Federal Register on April 4, 1990 (55 FR 12591).

2.0 EVALUATION

To achieve greater operational flexibility at lower power, FPL has proposed to expand the LPD LSSS Axial Shape Index (ASI) limits for power levels below 66 percent Rated Thermal Power (RTP) from ± 0.4 to ± 0.6 and for 100 percent power level from $- 0.145$ to $- 0.2$. The changes would also expand the ASI limits of the LPD LCO for power levels below 45 percent RTP (but above 40 percent RTP) and the ASI limits of the DNB LCO for powers below 65 percent RTP (but above 40 percent RTP) from ± 0.3 to ± 0.5 . In addition, changes are proposed to ASI limits of the LPD LCO at 85 percent RTP from 0.02 to $- 0.08$.

Design basis events initiated from intermediate power levels are bounded by either the full power or zero power results and, therefore, they are not typically analyzed at intermediate power levels. Therefore, to justify the proposed changes to the Technical Specification LCO and LSSS ASI limits, a reevaluation of only those full power or zero power events which might be adversely affected was made by the licensee.

The proposed changes to the LPD LSSS ASI limits could affect the previously licensed analyses for events initiated at full power. For example, the LPD LSSS trip ensures that the peak local power density in the fuel remains below

that corresponding to fuel centerline melting as a consequence of axial power shape maldistributions. However, this trip is not the primary trip in the safety analysis of any design basis event and, therefore, no full power events previously analyzed for St. Lucie Unit 1 are adversely affected.

The zero power events potentially affected by the proposed expansion of the ASI limits are the boron dilution, control element assembly (CEA) withdrawal, excess load, steam line break, and CEA ejection, which were originally analyzed by Combustion Engineering (CE) using deterministic methods. A reevaluation of these events by Advanced Nuclear Fuels Corporation (ANF), the present St. Lucie Unit 1 fuel vendor, using NRC-approved statistical setpoint methodology, has added additional safety margin which allows the Technical Specification ASI limits to be expanded at lower power levels while still resulting in acceptable consequences for these low power events.

3.0 TECHNICAL FINDINGS

The staff has reviewed the proposed modifications to the ASI limits for St. Lucie Unit 1. Specifically, the proposed wider ASI bands have been reviewed for their impact upon the plant safety analysis. The staff concludes that the most recent safety analysis justifies the expanded ASI limits and, therefore, the proposed modifications are acceptable.

4.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. We have determined that this amendment involves 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets 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 this amendment.

5.0 CONCLUSION

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: November 9, 1990

Principal Contributor:
L. Kopp