October 23, 1989

Docket No. 50-389

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

Dear Mr. Goldberg:

SUBJECT: ST. LUCIE UNIT 2 - ISSUANCE OF AMENDMENT (TAC NO. 69864)

The Commission has issued the enclosed Amendment No. 42 to Facility Operating License No. NPF-16 for the St. Lucie Plant, Unit No. 2. This amendment consists of changes to the Technical Specifications in response to your application dated October 24, 1988.

This amendment provides for expansion of the Departure from Nucleate Boiling (DNB) and Linear Heat Rate (LHR) related Axial Shape Index (ASI) limits for the Limiting Conditions for Operations (LCO), and the LHR-related Limiting Safety System Setpoints (LSSSs).

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly <u>Federal Register</u> 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. 42 to NPF-16
2. Safety Evaluation

cc w/enclosures:
See next page

LA:PDII-2	PM:PDII-2	D:PDII-2	OGC
DMiller	JNorris	HBerkow	MYoung
10/4/89	10/5/89	10/5/89	10/17/89

DF01 CP-1

8910300225 891023
PDR ADOCK 05000389
P PNU

Mr. J. H. Goldberg
Florida Power & Light Company

St. Lucie Plant

cc:
Mr. Jack Shreve
Office of the Public Counsel
Room 4, Holland Building
Tallahassee, Florida 32304

Senior Resident Inspector
St. Lucie Plant
U.S. Nuclear Regulatory Commission
7585 S. Hwy A1A
Jensen Beach, Florida 33457

State Planning & Development
Clearinghouse
Office of Planning & Budget
Executive Office of the Governor
The Capitol Building
Tallahassee, Florida 32301

Harold F. Reis, Esq.
Newman & Holtzinger
1615 L Street, N.W.
Washington, DC 20036

John T. Butler, Esq.
Steel, Hector and Davis
4000 Southeast Financial Center
Miami, Florida 33131-2398

Administrator
Department of Environmental Regulation
Power Plant Siting Section
State of Florida
2600 Blair Stone Road
Tallahassee, Florida 32301

Mr. Weldon B. Lewis, County
Administrator
St. Lucie County
2300 Virginia Avenue, Room 104
Fort Pierce, Florida 33450

Mr. Charles E. Brinkman, Manager
Washington Nuclear Operations
Combustion Engineering, Inc.
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 20852

Mr. Jacob Daniel Nash
Office of Radiation Control
Department of Health and
Rehabilitative Services
1317 Winewood Blvd.
Tallahassee, Florida 32399-0700

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta Street N.W., Suite 2900
Atlanta, Georgia 30323

Mr. Campbell Rich
4626 S.E. Pilot Avenue
Stuart, Florida 34997

DATED: October 23, 1989

AMENDMENT NO. 42 TO FACILITY OPERATING LICENSE NO. NPF-16 - ST. LUCIE, UNIT 2

Docket File
NRC & Local PDRs
PDII-2 Reading
S. Varga, 14/E/4
G. Lainas, 14/H/3
H. Berkow
D. Miller
J. Norris
S. Hoffman
OGC-WF
D. Hagan, 3302 MNBB
E. Jordan, 3302 MNBB
B. Grimes, 9/A/2
T. Meek (4), P1-137
Wanda Jones, P-130A
J. Calvo, 11/F/23
M. Chatteron 8/E/23
M. W. Hodges 8/E/23
ACRS (10)
GPA/PA
OC/LFMB
M. Sinkule, R-II

cc: Plant Service list

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

FLORIDA POWER & LIGHT COMPANY

ORLANDO UTILITIES COMMISSION OF

THE CITY OF ORLANDO, FLORIDA

AND

FLORIDA MUNICIPAL POWER AGENCY

DOCKET NO. 50-389

ST. LUCIE PLANT UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 42
License No. NPF-16

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Florida Power & Light Company, et al. (the licensee), dated October 24, 1988, 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, Facility Operating License No. NPF-16 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. 42 , 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 E Edison for

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: October 23, 1989

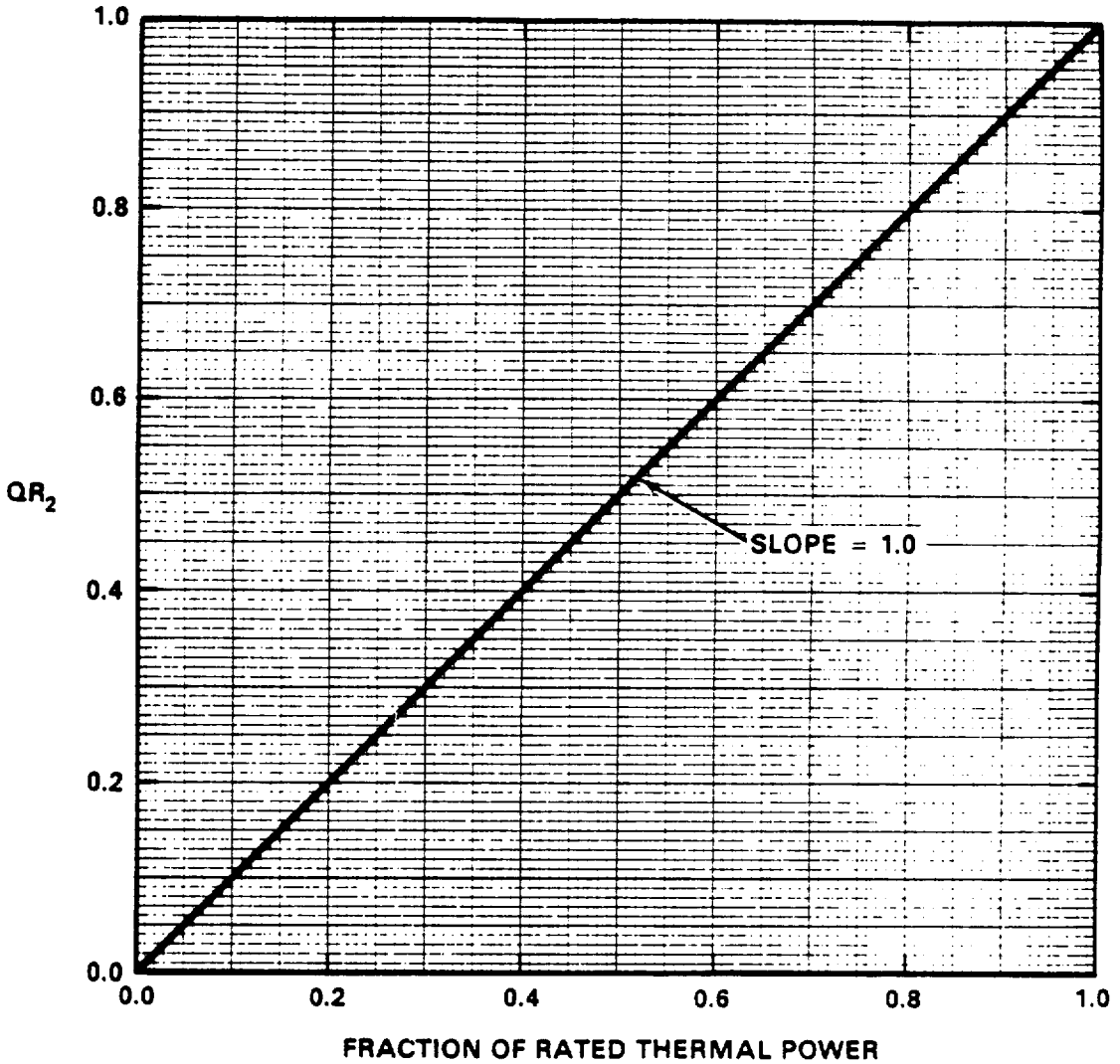


Figure 2.2-1
Local power density - High trip setpoint
Part 1 (Fraction of RATED THERMAL POWER versus QR_2)

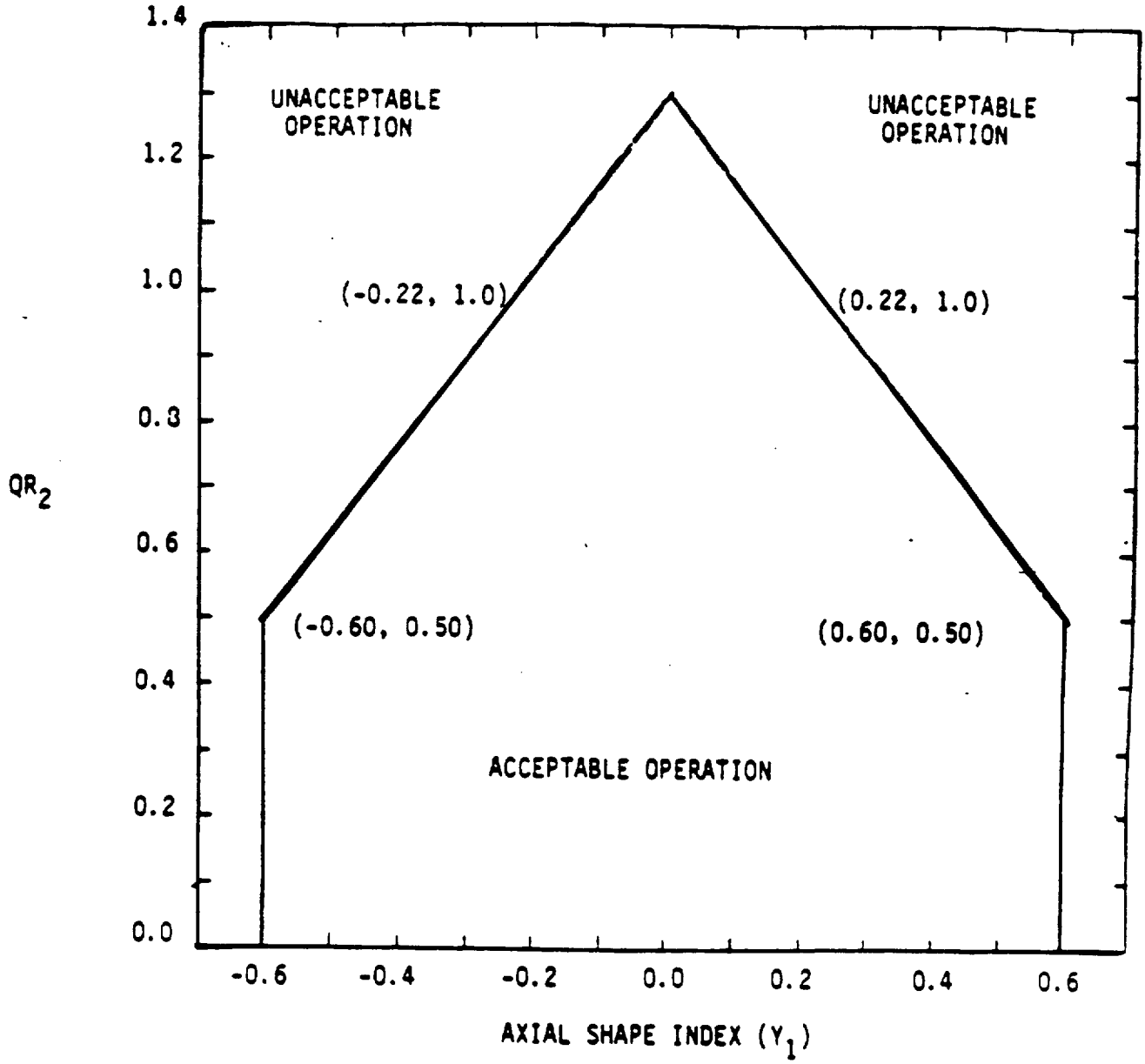


FIGURE 2.2-2

LOCAL POWER DENSITY-HIGH TRIP SETPOINT
PART 2 (QR_2 versus Y_1)

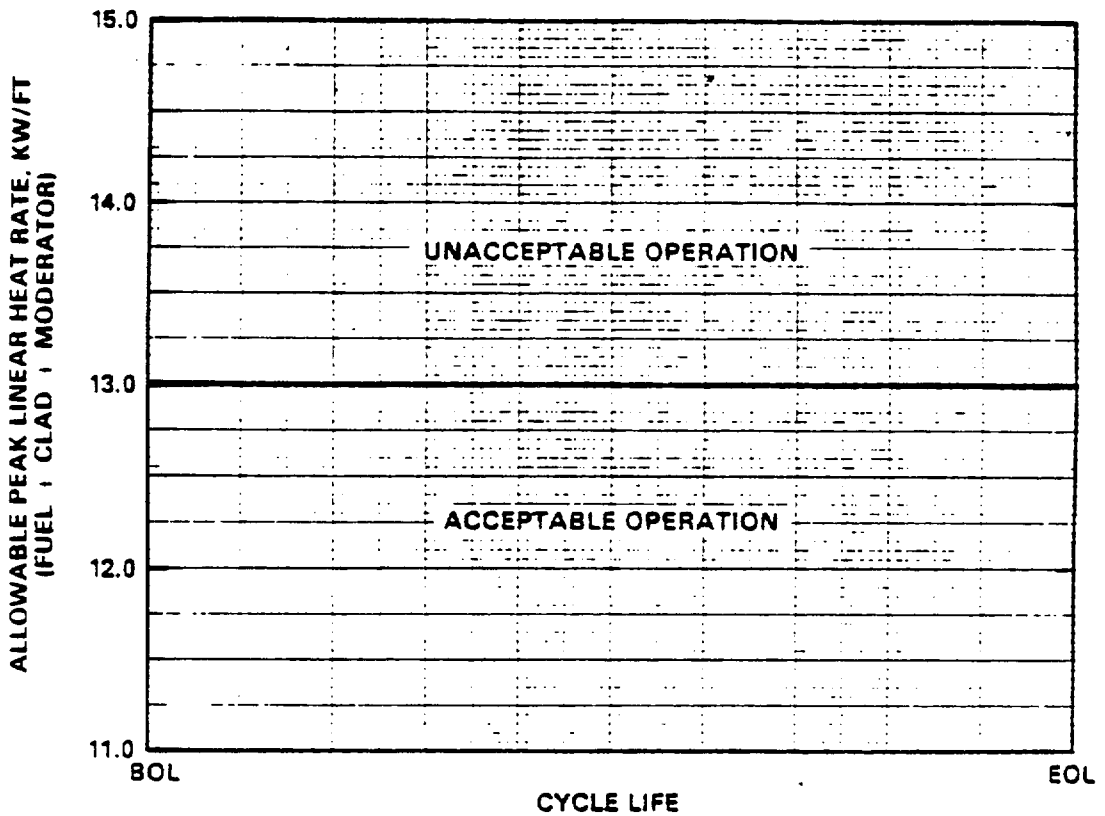
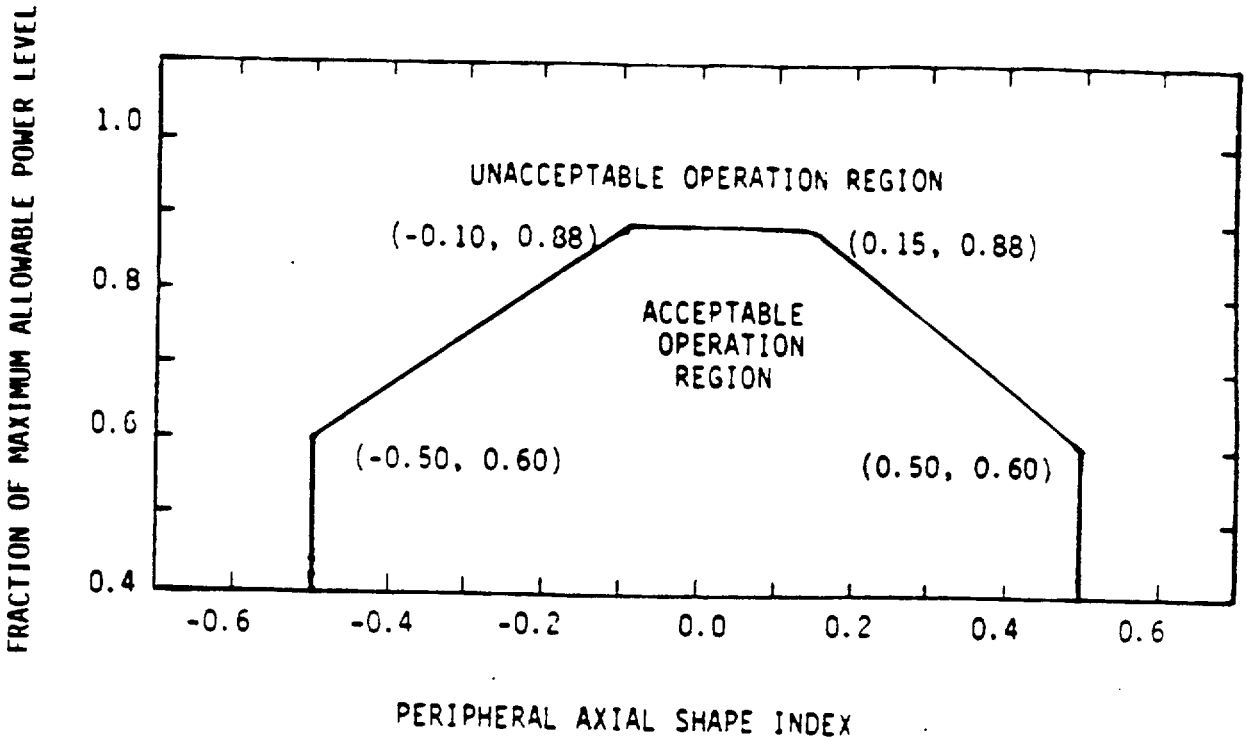


Figure 3.2-1
Allowable peak linear heat rate vs burnup



(NOT APPLICABLE BELOW 40% POWER)

FIGURE 3.2-2

AXIAL SHAPE INDEX VS. FRACTION OF MAXIMUM ALLOWABLE POWER LEVEL PER SPECIFICATION 4.2.1.3

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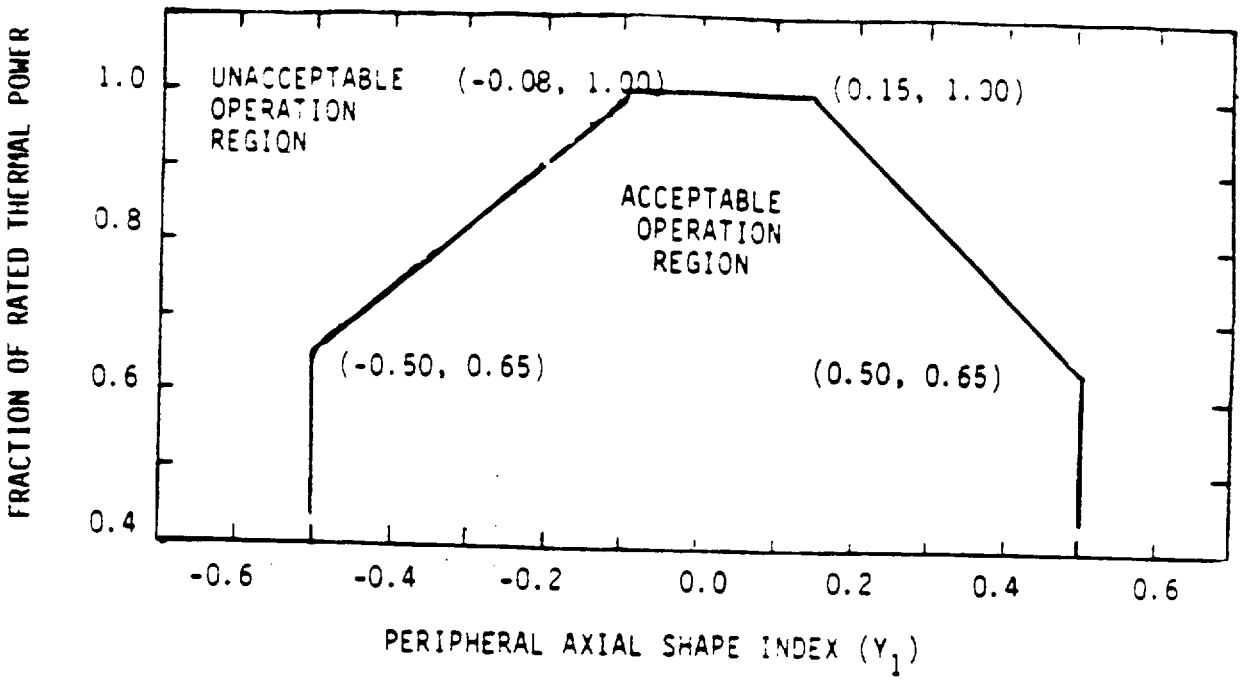

(NOT APPLICABLE BELOW 40% POWER)

FIGURE 3.2-4

AXIAL SHAPE INDEX OPERATING LIMITS WITH FOUR REACTOR COOLANT PUMPS OPERATING

ATTACHMENT TO LICENSE AMENDMENT NO. 42

TO FACILITY OPERATING LICENSE NO. NPF-16

DOCKET NO. 50-389

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 areas of change. The corresponding overleaf pages are also provided to maintain document completeness.

Remove Pages	Insert Pages
2-8	2-8
3/4 2-4	3/4 2-4
3/4 2-12	3/4 2-12

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 42

TO FACILITY OPERATING LICENSE NO. NPF-16

FLORIDA POWER & LIGHT COMPANY, ET AL.

ST. LUCIE PLANT, UNIT NO. 2

DOCKET NO. 50-389

INTRODUCTION

By letter dated October 24, 1988 Florida Power and Light (FPL) requested a change to the St. Lucie Unit 2 Technical Specifications on Local Power Density High Trip Setpoint. In order to achieve greater operational flexibility at lower powers FPL requested expansion of the Departure from Nucleate Boiling (DNB) and Linear Heat Rate (LHR) related Axial Shape Index (ASI) limits and LHR-related Limiting Safety System Setpoints (LSSSs). The proposed changes modify the Technical Specifications concerning the Local Power Density (LPD) LSSS (Figure 2.2-2), maximum allowed power level versus peripheral ASI for the excore detector monitoring system (Figure 3.2-2) and the DNB Limiting Conditions for Operation (LCO) fraction of rated thermal power versus peripheral ASI for four reactor coolant pump operation (Figure 3.2-4).

FPL proposed expansion of the LPD LSSS ASI limits for power levels below 50% from ±0.4 to ±0.6, expansion of the ASI limits of the LHR LCO for powers below 60% (but above 40%) and expansion of the ASI limits of the DNB LCO for powers below 65% (but above 40%) from ±0.3 to ±0.5. For Figure 2.2-2, it is also proposed to increase the ASI limits slightly above 0.8 of rated power and to raise the apex of the curve from 1.2 to 1.3.

EVALUATION

Since the ASI limit changes are for powers below 65%, the previously licensed analyses for various Design Basis Events (DBEs) initiated at or above 65% power are not affected by the proposed changes. The DBEs are not typically analyzed at intermediate power levels because the consequence of these events, when initiated from intermediate power, are bounded by either the full power or zero power results. Thus to justify the proposed changes to the Technical Specification LCO and LSSS ASI limits, FPL reevaluated only those zero power events which might be adversely affected, namely: boron dilution, control element assembly (CEA) withdrawal, excess load, steam line break (SLB) and CEA ejection.

The low power boron dilution event has no explicit dependence on ASI. The scram reactivity insertion rate will be affected but this is a second order effect and the impact will be negligibly small. Thus the boron dilution event analysis on record is still applicable.

The only impact on the CEA withdrawal and excess load events will be from the change in scram reactivity insertion rate because of the larger ASIs. In the negative ASI regime, the scram reactivity improves as the ASI gets more negative. In the positive ASI range, the scram reactivity rate is reduced but the effect is offset by conservatisms in the analysis of record.

The zero power SLB and CEA ejection events were already analyzed with ASI limits more conservative than the proposed limits.

To justify the LPD LSSS limit (Figure 2.2-2) change, FPL did an analysis which showed that the closest approach to the actual calculated LSSS limits occurs at 66% power at an ASI of +.48, with 12% margin. This margin is acceptable for operation and is consistent with the safety analysis of record.

Based on the above considerations, we conclude that the proposed Technical Specification changes are acceptable.

ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the 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 published a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, the 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 the amendment.

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: October 23, 1989

Principal Contributor:
M. Chatterton