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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 34 AND 25 TO

FACILITY OPERATING LICENSE NOS. NPF-76 AND NPF-80

HOUSTON LIGHTING & POWER COMPANY

CITY PUBLIC SERVICE BOARD OF SAN ANTONIO

CENTRAL POWER AND LIGHT COMPANY

CITY OF AUSTIN, TEXAS

DOCKET NOS. 50-498 AND 50-499

SOUTH TEXAS PROJECT, UNITS 1 AND 2

## 1.0 INTRODUCTION

By application dated April 15, 1991, as supplemented by letter dated January 24, 1992, Houston Lighting & Power Company, et.al., (the licensee) requested changes to the Technical Specifications (TS) (Appendix A to Facility Operating License Nos. NPF-76 and NPF-80) for the South Texas Project, Units 1 and 2. In its letter of January 24, 1992, the licensee requested a 30-day implementation period following the date of issuance of the license amendment. The proposed changes would eliminate the requirement for a Power Range, Neutron Flux High Negative Rate Trip (NFRT). The references to this trip in Technical Specification Sections 2.2-1, 3.3-1, and item 4 in Tables 2.2-1, 3.3-1, 3.3-2, and 4.3-1 would be deleted. The proposed change is consistent with Westinghouse Topical Report WCAP-11394-P-A, "Methodology for the Analysis of the Dropped Rod Event," which has been reviewed by the NRC and found acceptable for referencing in license applications.

## 2.0 EVALUATION

The dropped rod accident is initiated by a single electrical or mechanical failure which causes any combination of rods from the same group of a given bank to drop to the bottom of the core. The resulting negative reactivity insertion causes reactor power to quickly decrease. In manual control, a new equilibrium condition will be reached. If a dropped rod accident occurs while in the automatic rod control mode, the rod control system receives signals from the excore detectors and the turbine to indicate a primary/secondary side power mismatch. Partially inserted control rods are withdrawn and a power overshoot may occur. An increase in the hot channel factor due to skewed power distribution may also occur. If the reactor does not trip, a new equilibrium condition will be reached.

In May 1987, the Westinghouse Owners Group submitted Topical Report WCAP-11394-P, "Methodology for the Analysis of the Dropped Rod Event." Westinghouse extended the methodology which was previously used to show that the results of the dropped rod event were acceptable without automatic power reduction due to the dropped rods and without taking credit for any direct trip due to the dropped rods. Thus the NFRT could be removed. The staff reviewed WCAP-11394-P and found the methodology acceptable for referencing by letter dated October 23, 1989.

The methodology presented in WCAP-11394-P has been used for South Texas Unit 1 Cycle 3 and Unit 2 Cycle 2 dropped rod analyses. The departure from nucleate boiling ratio (DNBR) acceptance limit (departure from nucleate boiling [DNB] will not occur) was met. This analysis will be completed as part of the reload safety evaluation for each South Texas operating cycle. The analysis will be performed using the cycle-dependent control rod worth at full power insertion limits and the moderator temperature coefficient as input. This analysis produces a hot channel factor which is used to calculate the limiting DNBR during the transient to ensure that the DNB design basis is met.

The staff has reviewed the licensee's request for changes to South Texas Project, Units 1 and 2, Technical Specifications and found that it is an application of the methodology in WCAP-11394 and is therefore acceptable. Houston Lighting & Power has committed to performing an analysis for each South Texas cycle to show that the DNB design basis is met.

## 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Texas State official was notified of the proposed issuance of the amendment. The State official had no comments.

## 4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC 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 issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (56 FR 37584). 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.

## 5.0 CONCLUSION

The Commission has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: M. Chatterton

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