



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20556-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 58

FACILITY OPERATING LICENSE NO. NPF-76

HOUSTON LIGHTING & POWER COMPANY

CITY PUBLIC SERVICE BOARD OF SAN ANTONIO

CENTRAL POWER AND LIGHT COMPANY

CITY OF AUSTIN, TEXAS

DOCKET NO. 50-498

SOUTH TEXAS PROJECT, UNIT 1

1.0 INTRODUCTION

By application dated December 6, 1993, Houston Lighting & Power Company, et.al., (the licensee) requested changes to the Technical Specifications (Appendix A to Facility Operating License Nos. NPF-76 and NPF-80) for the South Texas Project, Unit 1 (STP). The proposed change would extend the allowed outage time for the Unit 1 turbine driven auxiliary feedwater (AFW) pump from 72 hours to 168 hours during the restart of Unit 1 from the 1993 Unit 1 outage. The one-time-only change would allow testing, evaluation, and corrective maintenance of the pump at a secondary steam supply pressure greater than 1000 psig in Mode 3, as specified by Surveillance Requirement 4.7.1.2.1.a.2.

On February 1, 1993, the turbine driven AFW pump tripped on overspeed when started for a test run and was declared inoperable. Unit 1 was shutdown to address turbine driven AFW pump operability concerns. The extensive nature of testing that was scheduled at Mode 3 conditions resulted in the need for an extension of the allowed outage time (AOT). The licensee had requested enforcement discretion from the requirements of Technical Specification 3.7.1.2 Action B as it applies to the turbine driven AFW pump to facilitate an augmented test program. The NRC granted the one-time enforcement discretion on August 13, 1993 which increased the AOT in Mode 3 for the turbine driven AFW pump from 72 to 144 hours. The licensee was unable to complete the testing as planned in August 1993 and anticipates that an extended AOT will be required to complete the turbine driven AFW pump testing during the Unit 1 restart.

## 2.0 EVALUATION

Technical Specification 3.7.1.2 requires that if the turbine driven AFW pump is not operable, a 72-hour allowed outage time is applicable or the unit is required to be in Mode 3 within the next 6 hours and in Mode 4 within the following 6 hours. This proposed one-time-only technical specification change would extend the AOT by 96 hours. In order to adhere to the current technical specification, the licensee may be required to perform an additional heat-up and cool-down cycle on the unit to complete all the testing that is scheduled at Mode 3 conditions. The augmented test program could not be performed within the existing 72-hour allowed outage time unless an amendment is approved for Technical Specification 3.7.1.2, Action b.

The purpose of the AFW system is to provide a source of feedwater to the steam generators when the main feedwater system or the residual heat removal system is not available. During plant heatup and startup the AFW system may be used in manual control to maintain steam generator water level until the main feedwater system is available. To mitigate the consequences of a trip or most accidents, only one of the four AFW pumps is required. In Mode 4, both residual heat removal pumps and the motor driven AFW pumps are available for decay heat removal but the turbine driven pump is unavailable due to low steam pressure. In Mode 3 (above 1000 psig), sufficient steam pressure is available to operate the turbine driven AFW pump (train D) at the required surveillance conditions. Therefore, in Mode 3, the turbine driven pump provides an additional source of decay heat removal. During the extended AOT the standby diesel generators will not be removed from service to ensure that emergency power is available to the three motor driven AFW pumps. The three motor driven pumps will provide substantial margin in the AFW system without the turbine driven AFW pump during the short duration that is required to complete turbine driven AFW pump testing.

The licensee has performed a risk assessment study to determine the effect on core damage frequency of extending the AOT permanently. The AFW system is modeled in the South Texas Probabilistic Safety Assessment (PSA) which was submitted to the NRC in August of 1992. In anticipation of this proposed change, the licensee reevaluated the AFW system using the Level 2 PSA model for a 7-day AOT for only Train D of the system. The increase in core damage frequency was found to be  $5.6 \times 10^{-7}$ /year over a baseline core damage frequency of  $4.4 \times 10^{-5}$ /year. Therefore, this change would result in an insignificant change in core damage frequency.

Based on the low probability of an accident occurring during the relatively short time that the pump would be inoperable, the controls taken to ensure the availability of redundant components, and the insignificant increase in core damage frequency, the staff finds that a one-time-only change of the allowed outage time from 72 to 168 hours is acceptable.

### 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 (58 FR 67848). 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.

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Date: January 25, 1994