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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 32 TO

FACILITY OPERATING LICENSE NO. NPF-38

LOUISIANA POWER AND LIGHT COMPANY

WATERFORD STEAM ELECTRIC STATION, UNIT 3

DOCKET NO. 50-382

1.0 INTRODUCTION

By application dated October 8, 1987, Louisiana Power and Light Company (LP&L or the licensee) requested changes to the Technical Specifications (Appendix A to Facility Operating License No. NPF-38) for Waterford Steam Electric Station, Unit 3. The proposed changes would revise the Action requirements for exceeding a Core Protection Calculators (CPCs) calculated operating limit in Technical Specifications 3.2.1 and 3.2.4.

2.0 DISCUSSION

Presently, if core operating limit supervisory system (COLSS) is out of service, Technical Specification 3.2.1, Linear Heat Rate (LHR), and Technical Specification 3.2.4, Departure from Nucleate Boiling Ratio (DNBR) Margin, requires that LHR and DNBR must be maintained within a more restrictive set of limits based on the CPCs. With the limits not being maintained, corrective action must be initiated within 15 minutes to restore LHR and DNBR to within the applicable set of limits within 1 hour or the plant must be in at least Hot Standby within the next 6 hours.

With COLSS out of service, the proposed changes will replace the current 15 minute time limit for initiating corrective action with a requirement to return COLSS to service within 2 hours. The time allowed for restoration of the DNBR and LHR limits would then increase from 1 hour to 2 hours. If the DNBR and LHR limits are not restored within the proposed 2 hours, the proposed changes would require reactor power to be reduced to less than or equal to 20% of Rated Thermal Power within the next 6 hours.

3.0 EVALUATION

The intent of Technical Specifications 3.2.1 and 3.2.4 is to maintain the reactor within the range of initial conditions that was assumed in the licensee's Safety Analysis. Maintaining the LHR within the specified range ensures that in the event of a LOCA, the fuel cladding temperature will not exceed 2200°F limit imposed by 10 CFR 50.46. Maintaining the DNBR within the specified range will ensure that no postulated accident will result in consequences more severe than those described in Chapter 15 of the licensee's Final Safety Analysis Report.

The primary consideration in extending the COLSS out of service time limit is the remote possibility of a slow, undetectable transient that degrades the LHR and/or DNBR slowly over the 2 hour period and is then followed by an anticipated operational occurrence or an accident. Upon approval of the proposed change the licensee will increase the monitoring frequency of the CPC-calculated values of LHR and DNBR. Currently, immediately following the loss of COLSS and every 2 hours thereafter, the licensee records (among other things) the CPC-calculated values of LHR and DNBR. Following approval of the proposed change, the licensee will increase the monitoring frequency for LHR and DNBR from once every 2 hours to once every 15 minutes. Moreover, the licensee is currently working to define a maximum allowable change in the CPC-calculated LHR or DNBR such that further degradation will require the operators to take immediate action to reduce reactor power and comply with the appropriate COLSS out of service Technical Specification limits. Implementation of this change will provide additional assurance that potential reductions in core thermal margin will be quickly detected and, should it prove necessary, result in a decrease in reactor power and subsequent compliance with the existing COLSS out of service Technical Specification limits. The maximum reduction in power is appropriately proposed to 20% of Rated Thermal Power to coincide with the requirements for determining the linear heat rate and departure from nucleate boiling ratio only when the thermal power exceeds 20% (the applicability made for Specification 3/4 2.1).

The licensee has also proposed to extend the time allowed to return COLSS to operation from 1 hour to 2 hours. The frequency of CPC determinations of LHR and DNBR have been increased and with the operation maintained steady, the likehood of exceeding the LHR and DNBP limits during the 2 hours is not increased but the likelihood of induced reactor transients from an early power reduction is reduced. Operation in the proposed manner is an acceptable balance between CPC determination and extending the period before power changes are required. The level of safety is maintained.

The proposed changes do not alter the current power operating limits nor do they involve any changes to COLSS or CPC software. The licensee will make no physical change to plant systems, structures or components nor will the proposed changes affect the ability of any of the safety-related equipment required to mitigate accidents. Therefore, for the reasons stated above, the staff concludes that the proposed changes to Technical Specifications 3.2.1 and 3.2.4 are acceptable.

4.0 CONTACT WITH STATE OFFICIAL

The NRC staff has advised the Administrator, Nuclear Energy Division, Office of Environmental Affairs, State of Louisiana of the proposed determination of no significant hazards consideration. No comments were received.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment relates to changes in installation or use of a facility component located within the restricted area as defined in 10 CFR 20 and changes surveillance requirements. 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 issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such findings. 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 this amendment.

6.0 CONCLUSION

Based upon its evaluation of the proposed changes to the Waterford 3 Technical Specifications, the staff has concluded that: there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and 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. The staff, therefore, concludes that the proposed changes are acceptable, and are hereby incorporated into the Waterford 3 Technical Specifications.

Dated: March 21, 1988

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