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

October 6, 1989

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 163 TO FACILITY OPERATING LICENSE NO. DPR-49

IOWA ELECTRIC LIGHT AND POWER COMPANY
CENTRAL IOWA POWER COOPERATIVE
CORN BELT POWER COOPERATIVE

DUANE ARNOLD ENERGY CENTER

DOCKET NO. 50-331

1.0 INTRODUCTION

By letter dated October 13, 1987, Iowa Electric Light and Power Company, et al. (the licensee), submitted an application for an amendment to Facility Operating License No. DPR-49 for the Duane Arnold Energy Center (DAEC). The proposed amendment would revise Technical Specification (TS) Table 3.2-B, "Instrumentation that Initiates or Controls the Core and Containment Cooling Systems." The revision of TS Table 3.2-B would reflect the Containment High Pressure trip level setting to greater than 2 psig, rather than the current setting of greater than 1 psig but less than 2 psig. Additionally, the remarks section of TS Table 3.2-B would be revised to state, "Prevents inadvertent operation of containment spray during normal operation," rather than during "...accident condition." These revisions are necessary to resolve an inconsistency between the DAEC Final Safety Analysis Report (FSAR) and the DAEC TS.

2.0 EVALUATION

The Containment High Pressure trip level setting in TS Table 3.2-B is currently required to be between 1 and 2 psig. The proposed TS change will not allow containment spray operation at a containment pressure below 2 psig. While the current TS allows this operation, it is not in agreement with the FSAR. In the DAEC FSAR, the analysis of suppression pool to reactor building vacuum relief system assumes the trip level setting to be greater than 2 psig. It further states that the design basis limiting transient for this system is the inadvertent initiation of containment spray when the containment is at 150°F maximum operating temperature. According to the FSAR analysis of the vacuum relief system, the vacuum breakers are of adequate size to prevent either the drywell or torus from exceeding their negative design pressure (-2 psig) should containment spray be inadvertently initiated above 2 psig during the worst case operating conditions.

The inadvertent initiation of containment spray below a drywell pressure of 2 psig is prevented by four pressure switches that sense drywell pressure. These pressure switches operate an interlock that isolates the containment spray header from the residual heat removal system when the pressure is below the 2 psig setpoint.

Since the DAEC TS is not in conformance with the DAEC FSAR, the licensee asked the NSSS vendor to perform an analysis to determine the results of initiating containment spray as low as 1 psig (which is the lower setpoint limit specified in the current TS) during the design worst case transient. The analysis showed that under these conditions, the design negative pressure of the primary containment would not be exceeded and the design basis was met.

The proposed amendment would resolve the inconsistency between the TS and the FSAR and allow the pressure switches to be set to actuate at a drywell pressure of greater than 2 psig. Accordingly, the remarks section would be revised to state the purpose of the new setpoint. The remarks would reflect that the revised setpoint prevents the inadvertent operation of containment spray during normal operation rather than during an accident condition.

Based upon the information presented, the staff concludes that the proposed changes to the Technical Specifications are acceptable.

3.0 ENVIRONMENTAL CONSIDERATIONS

This 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 or changes a surveillance requirement. 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 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.

4.0 CONCLUSION

The staff 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, 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.

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Dated: October 6, 1989