



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 162 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 June 30, 1987, Iowa Electric Light and Power Company, et al. (the licensee) submitted an application for amendment to Facility Operating License No. DPR-49 for the Duane Arnold Energy Center. The proposed amendment would revise Technical Specification (TS) 3.5.G.3 to clarify the Limiting Condition for Operation (LCO) which requires that certain emergency core cooling equipment be available when work is performed which has the potential for draining the reactor vessel. New TS's 3.5.G.4.(d) and 3.5.G.5 would apply additional restrictions prohibiting operations which have the potential for draining the reactor vessel when the suppression pool water supply is not adequate. Moreover, administrative changes were requested to the above TS's and the associated bases.

2.0 EVALUATION

The licensee proposed to revise TS 3.5.G.3 to clearly define the low pressure core cooling systems that must be operable when work is being performed which has the potential to drain the reactor vessel. Analysis indicated that the worst case loss of reactor vessel inventory would be caused by the failure of the velocity limiter section of a control rod while maintenance was being performed. This would allow coolant to drain from the reactor vessel through the control rod drive housing. The maximum leakage flow rate for this scenario would be 1328 gallons per minute (gpm), which is less than one-half of the makeup capacity of either one core spray pump (3020 gpm) or one low pressure coolant injection pump (4800 gpm). Further, the revised LCO would require an independent onsite power source (at least one emergency diesel generator) that is capable of supplying backup power to the core spray and the low pressure coolant injection pumps. The revision to TS 3.5.G.3 would clarify the specification regarding the low pressure core cooling system operability and prevent operator confusion in interpreting the TS. Section 3.5.G of the Bases would also be revised to reflect the changes to TS 3.5.G.3.

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The licensee proposed to add two new specifications, TS 3.5.G.4.(d) and TS 3.5.G.5. These specifications would place an additional restriction on the licensee. TS 3.5.G.4.(d) would prohibit work that has the potential for draining the reactor vessel if the suppression pool water inventory is below the TS minimum value. TS 3.5.G.5 would explicitly require suspension of core alterations if the requirements of TS 3.5.G.4 cannot be met. These new specifications would provide clear guidance in this area during core alteration activities.

In TS 3.5.G.4, the licensee proposed to administratively change the wording of "refueling operations" to "core alterations." This is a more correct description of activities in regards to the TS and is a defined TS term.

In summary, the staff finds that the proposed changes will either clarify existing requirements or place additional restrictions on the licensee during operations which have the potential for draining the reactor vessel. Therefore, the staff concludes that the proposed changes to the Technical Specifications, as requested in the licensee's letter dated June 30, 1987, are acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

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: August 15, 1989