



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 106 TO FACILITY OPERATING LICENSE NO. DPR-29
COMMONWEALTH EDISON COMPANY
AND
IOWA-ILLINOIS GAS AND ELECTRIC COMPANY
QUAD CITIES NUCLEAR POWER STATION, UNIT 1
DOCKET NOS. 50-254

1.0 INTRODUCTION

By letter dated November 17, 1987, Commonwealth Edison Company (CECo), the licensee for Quad Cities Nuclear Power Station (QCNS), Unit 1, requested changes to Technical Specifications (TS) 3.4/4.4 with regard to the Standby Liquid Control System (SLCS). These proposed TS changes reflect a plant modification which increased the concentration of sodium pentaborate in the SLCS tank to 14 weight percent. This increase in concentration in conjunction with the capability to operate both SLCS pumps simultaneously at a total combined flow rate of 80 gpm was done to satisfy, in part, the requirements of 10 CFR 50.62. The SLCS design modification and implementation schedule to comply with 10 CFR 50.62 was described by CECo in letter dated September 30, 1987. CECo has also proposed (in the November 17 letter) TS changes to decrease the minimum required liquid poison volume from 3470 gallons to 3321 gallons, to periodically test the SLCS pumps (one pump at a time), and increase the relief valve pressure setting range by 55 psig.

2.0 EVALUATION

TS changes proposed by CECo, and their description of unit modifications to the SLCS, have been reviewed by the staff against the requirements of the ATWS rule (10 CFR 50.62), and Generic Letter 85-03 "Clarification of Equivalent Control Capacity for Standby Liquid Control Systems" dated January 28, 1985. Increasing the SLCS sodium pentaborate concentration to 14 weight percent in conjunction with a flow rate of 80 gpm provides a boron content equivalent in control capacity to 86 gpm of 13 weight percent sodium pentaborate. This is in compliance with 10 CFR 50.62 and is therefore acceptable.

The licensee's proposal to change the TS required liquid poison tank volume from a minimum of 3,470 gallons to a minimum 3,321 gallons is acceptable because with an increased solution concentration of 14%, 3,321 gallons will provide the same total amount of poison and shutdown margin as the lower concentration/higher volume solution currently used.

Additionally, the proposal to periodically test only one SLCS pump at a time instead of both pumps simultaneously is also acceptable. This is based upon CECO's performance of initial two-pump tests, correlation of single pump data to the initial two-pump data, and subsequent comparison of the periodic single pump test data to the initial test data for verification of system capability.

Revised surveillance requirements were also proposed to increase the allowable TS setpoint band for the system pressure relief valves from the current range of 1400 - 1490 psig, to a band of 1455 - 1545 psig because of increased pump discharge pressure during two pump operation. A result of two pump SLCS operation is that discharge pressures will be higher. Accordingly, the allowable system pressure relief valve setpoints have been increased by approximately 55 psig.

Furthermore, new and revised TS bases were proposed to reflect the above changes and SLCS modifications. All aforementioned TS changes are consistent with modification made to the SLCS to comply with 10 CFR 50.62, and are therefore acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20, and changes to surveillance requirements. The staff has determined this 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendment meets 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 nor environmental assessment need be prepared in connection with the issuance of this 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 this amendment will not be inimical to the common defense and security nor to the health and safety of the public.

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Dated: March 28, 1988

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