



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 146 TO FACILITY OPERATING LICENSE NO. DPR-29  
AND AMENDMENT NO. 142 TO FACILITY OPERATING LICENSE NO. DPR-30

COMMONWEALTH EDISON COMPANY

AND

IOWA-ILLINOIS GAS AND ELECTRIC COMPANY

QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2

DOCKET NOS. 50-254 AND 50-265

1.0 INTRODUCTION

By letter dated December 20, 1993, Commonwealth Edison Company (CECo, the licensee) proposed a change to the Technical Specifications (TS) for Quad Cities Nuclear Power Station, Units 1 and 2. The proposed change reflects the use of generically approved fuel type GE 8x8NB-3 (GE10) by changing the Minimum Critical Power Ratio (MCPR) safety limit from 1.06 to 1.07 starting from Cycle 14 of each unit.

2.0 DISCUSSION AND EVALUATION

The licensee plans to load GE10 fuel in Quad Cities, Units 1 and 2 for Cycle 14 of each unit. The GE10 fuel design has evolved from the NRC approved GE 8x8NB design. The GE10 design includes the features of GE 8x8NB fuel plus the combination of interactive channel design and the offset lower tie plate toward the control blade. This modification makes the D-lattice channel design of BWR-3 plants more agreeable with the C-lattice channel design of BWR-5 plants in analyses. The new fuel design options have been analyzed with approved methods and the results are acceptable.

The licensee has proposed to increase the MCPR Safety Limit from 1.06 to 1.07 for Quad Cities, Units 1 and 2. The proposed change is based on General Electric Standard Application for Reactor Fuel II (GESTAR II) NEDE-24011-P-A-10 conclusions that the GE8x8NB C-lattice MCPR limit safety of 1.07 is acceptable for GE10 fuel designs loaded in D-lattice cores. The NRC has previously reviewed and approved the MCPR Safety Limit for GE10 design in Amendment 21 to GESTAR II by a letter from A. Thadani to J. Chanley dated March 17, 1989. The staff concluded that the use of C-lattice MCPR limit for the offset lower plate option is conservative for D-lattice cores. These conclusions are applicable to the D-lattice core at Quad Cities. Based on the above discussion, the staff concludes that the proposed increase in MCPR limit is acceptable.

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### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Illinois State official was notified of the proposed issuance of the amendments. The State official had no comments.

### 4.0 ENVIRONMENTAL CONSIDERATION

The amendments change 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. The NRC staff has determined that the amendments involve 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 amendments involve no significant hazards consideration, and there has been no public comment on such finding (59 FR 10003). Accordingly, the amendments meet 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 amendments.

### 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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

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Date: June 10, 1994