

May 30, 1985

Docket No. 50-265

Mr. Dennis L. Farrar
Director of Nuclear Licensing
Commonwealth Edison Company
Post Office Box 767
Chicago, Illinois 60690

Dear Mr. Farrar:

The Commission has issued the enclosed Amendment No. 87 to Facility Operating License No. DPR-30 for the Quad Cities Nuclear Power Station, Unit 2. This amendment consists of changes to the Technical Specifications (TS) in response to your letter of October 2, 1984, as supplemented by your letter of May 29, 1985.

This amendment revises the Technical Specifications to allow hafnium metal to be used for neutron absorber material in control rod blades.

A copy of the related Safety Evaluation is also enclosed.

Sincerely,

Original signed by/

Roby B. Bevan, Project Manager
Operating Reactors Branch #2
Division of Licensing

Enclosures:

1. Amendment No. 87 to License No. DPR-30
2. Safety Evaluation

cc w/enclosures:
See next page

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Mr. Dennis L. Farrar
Commonwealth Edison Company
Quad Cities Nuclear Power Station, Units 1 and 2

cc:

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

COMMONWEALTH EDISON COMPANY
AND
IOWA-ILLINOIS GAS AND ELECTRIC COMPANY

DOCKET NO. 50-265

QUAD CITIES NUCLEAR POWER STATION, UNIT 2
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 87
License No. DPR-30

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Commonwealth Edison Company (the licensee) dated October 2, 1984, as supplemented May 29, 1985, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-30 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 87, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Domenic B. Vassallo, Chief
Operating Reactors Branch #2
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 30, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 87

FACILITY OPERATING LICENSE NO. DPR-30

DOCKET NO. 50-265

Revise the Appendix A Technical Specifications by removing page 5.0-1
and inserting revised page 5.0-1.

QUAD CITIES
DPR-30

5.0 DESIGN FEATURES

5.1 Site

The Quad Cities Station, which consists of a tract of land of approximately 404 acres, is located about 3 miles north of Cordova, Illinois, Rock Island County, Illinois. The tract is situated in portions of Sections 7, 8, 17, and 18 of Township 20 North, Range 2 East.

5.2 Reactor

- A. The core shall consist of not more than 724 fuel assemblies.
- B. The reactor core shall contain 177 cruciform-shaped control rods. The control material shall be boron carbide powder (B_4C) compacted to approximately 70% of theoretical density or hafnium metal.

5.3 Reactor Vessel

The reactor vessel shall be as described in Table 4.1.1 of the SAR. The applicable design codes shall be as described in Table 4.1.1 of the SAR.

5.4 Containment

- A. The principal design parameters and applicable design codes for the primary containment shall be as given in Table 5.2.1 of the SAR.
- B. The secondary containment shall be as described in Section 5.3.2 of the SAR, and the applicable codes shall be as described in Section 12.1.1.3 of the SAR.
- C. Penetrations to the primary containment and piping passing through such penetrations shall be designed in accordance with standards set forth in Section 5.2.2 of the SAR.

5.5 Fuel Storage

- A. The new fuel storage facility shall be such that the K_{eff} dry is less than 0.90 and flooded is less than 0.95.
- B. The K_{eff} of the spent fuel storage pool shall be less than or equal to 0.95.

5.6 Seismic Design

The reactor building and all contained engineered safeguards are designed for the maximum credible earthquake ground motion with an acceleration of 24% of gravity. Dynamic analysis was used to determine the earthquake acceleration application to the various elevations in the reactor building.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 87 TO FACILITY OPERATING LICENSE NO. DPR-30

COMMONWEALTH EDISON COMPANY
AND
IOWA-ILLINOIS GAS AND ELECTRIC COMPANY

QUAD CITIES STATION, UNIT 2

DOCKET NO. 50-265

1.0 INTRODUCTION

By letter dated October 2, 1984, as supplemented by letter dated May 29, 1985, Commonwealth Edison Company (CECo, the licensee) proposed to amend the Technical Specifications (TS) for Quad Cities, Unit 2 to allow the use of hafnium metal, as well as boron carbide (B_4C), for neutron absorber material in control rod blades. At present the use of only B_4C is allowed for that purpose.

2.0 EVALUATION

The staff has previously approved the use of hafnium metal as a neutron absorber in control rods for other BWR nuclear units, including Monticello, Dresden Units 2 and 3 and Brunswick Units 1 and 2, as well as in operating PWRs. In the upcoming operating cycle for Quad Cities Unit 2 the licensee will replace 39 of the standard control rod blades with advanced longer life control rod blades (ALLCR) which use hafnium metal, as well as boron carbide. These blades are designed to have the same worth control rod as the existing blades.

The details of the design are given in General Electric Topical Report NEDE-22290, Supplement 2, "Safety Evaluation of the General Electric Advanced Longer Life Control Assembly." We have completed our review of this report. We conclude that the use of these ALLCR blades in Quad Cities Unit 2 is acceptable, based on our finding that the tests and analyses presented in the topical report provide an acceptable level of assurance that the ALLCR blades will provide their intended safety function.

The details of the design and materials will not be included in the revised Technical Specifications. Since descriptions of the standard blades exist in the Final Safety Analysis Report (FSAR) and of the ALLCR blades in the Topical Report NEDE-22290, Supplement 2 and the safety design criteria which control rods must meet are contained in the FSAR and in other Technical Specifications, we conclude that this is acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

The amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 CONCLUSIONS

We have 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 or to the health and safety of the public.

Principal Contributor: R. Lobel and R. Bevan

Dated: May 30, 1985