

February 25, 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. 85 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 in response to your December 4, 1984 application.

The amendment revises the Technical Specifications to allow a temporary increase in the Linear Heat Generation Rate (LHGR) from 13.4 to 15.0 kw/ft for certain Barrier Fuel Test Assemblies present in the Unit 2 core. This new limit applies only during the remainder of the current Operating Cycle 7.

A copy of the 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. 85 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. 85
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 December 4, 1984, 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 2.C.(2) of Facility Operating License No. DPR-30 is hereby amended to read as follows:

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(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 85, 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: February 25, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 85

FACILITY OPERATING LICENSE NO. DPR-30

DOCKET NO. 50-265

Revise Appendix A Technical Specifications by removing page 3.5/4.5-10 and inserting revised page 3.5/4.5-10.

Quad Cities
DPR-30

within the prescribed limit within 2 hours, the reactor shall be brought to the cold shutdown condition within 36 hours. Surveillance and corresponding action shall continue until reactor operation is within the prescribed limits. Maximum allowable LHGR for all 8X8 fuel types is 13.4 KW/ft.*

K. Minimum Critical Power Ratio (MCPR)

During steady-state operation at rated core flow, MCPR shall be greater than or equal to:

$$1.34 \text{ for } \gamma_{\text{ave}} \leq 0.73 \text{ secs}$$

$$1.39 \text{ for } \gamma_{\text{ave}} \geq 0.86 \text{ secs}$$

$$0.385 \gamma_{\text{ave}} + 1.059 \\ \text{for } 0.73 < \gamma_{\text{ave}} < 0.86 \text{ secs}$$

where γ_{ave} = mean 20% scram insertion time for all surveillance data from Specification 4.3.C which has been generated in the current cycle.

For core flows other than rated, these nominal values of MCPR shall be increased by a factor of k_f where k_f is as shown in Figure 3.5.2. If any time during operation it is determined by normal surveillance that the limiting value for MCPR is being exceeded, action shall be initiated within 15 minutes to restore operation to within the prescribed limits. If the steady-state MCPR is not returned to within the prescribed limits within 2 hours, the reactor shall be brought to the cold shutdown condition within 36 hours. Surveillance and corresponding action shall continue until reactor operation is within the prescribed limits.

* For the purpose of the end of Cycle 7 Barrier Fuel Ramp Test, the steady-state LHGR for the Barrier Ramp Cell fuel may exceed the maximum allowable LHGR identified in Technical Specification 3.5.J by no more than 12 percent (15.0 KW/ft), effective from initiation of the test until the end of Cycle 7 shutdown.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 85 TO FACILITY OPERATING LICENSE NO. DPR-30

COMMONWEALTH EDISON COMPANY
AND
IOWA-ILLINOIS GAS AND ELECTRIC COMPANY
QUAD CITIES NUCLEAR POWER STATION, UNIT 2

DOCKET NO. 50-265

1.0 Introduction

By letter dated December 4, 1984 Commonwealth Edison (the licensee) made application to amend the Technical Specifications of Quad Cities Station Unit 2, Cycle 7, in order to facilitate the performance of end-of-cycle ramp tests on Barrier Fuel Assemblies. The amendment would permit a 12 percent increase in the operating limit Linear Heat Generation Rate (LHGR) for the 16 Barrier Demonstration assemblies to 15.0 kilowatts per foot (kw/ft). The licensee provided a Safety Evaluation supporting the proposed change as Attachment 1 to the above letter.

2.0 Evaluation

A similar request for a 10 percent increase in the LHGR for the Ramp Demonstration cells was approved by the staff for Quad Cities Unit 2 for the end-of-cycle 6 (Reference 1). That approval was based on the following:

- a. Only the 16 fuel bundles in the four Ramp Demonstration cells are affected by the proposed increase in LHGR limits and only one rod in each cell is expected to violate the 13.4 kw/ft limit.
- b. The duration of operation above 13.4 kw/ft is expected to be less than two months.
- c. The Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) values are calculated to remain well below the limiting values during the tests.
- d. Analyses provided by the licensee show that the 1 percent plastic strain limit would not be violated during limiting transients initiated from the revised LHGR limits.

Some reservation was expressed by the staff about the correct value for the plastic strain limit and its use as the appropriate limit but it was concluded that sufficient margin to the limit was present to permit the conclusion that overall fuel performance would not be compromised.

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The same arguments continue to apply for the proposed Cycle 7 limits on the operating limit LHGR. The expected duration of possible operation above 13.4 kw/ft is only one month. The transient analyses results indicate a margin of 4.8 kw/ft to the plastic strain limit. We, therefore, conclude that there is reasonable assurance that a 12 percent increase in the allowable peak LHGR value for the Barrier Ramp Cell fuel assemblies for a period from the initiation of the test until the end of Cycle 7 shutdown will not compromise licensing safety limits on MCPR, MAPLHGR, or 1 percent cladding strain and that overall fuel performance will not be compromised by the LHGR limit increase. Therefore, we conclude that the proposed license amendment 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 amendments involve 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

5.0 Reference

1. Letter, R. Bevan (NRC) to D. Farrar (Commonwealth), dated March 3, 1983.

Principal Contributor: W. Brooks

Dated: February 25, 1985