

REGULATORY DOCKET FILE COPY

JUNE 26 1980

Docket No. 50-254

Mr. D. Louis Peoples
Director of Nuclear Licensing
Commonwealth Edison Company
P. O. Box 767
Chicago, Illinois 60690

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Dear Mr. Peoples:

The Commission has issued the enclosed Amendment No. ⁵⁶ to Facility Operating License No. DPR-29 for Unit No. 1 of the Quad Cities Nuclear Power Station. This amendment is in response to your request dated June 6, 1980.

This amendment authorizes operation of the reactor beyond the previously approved end-of-cycle coastdown conditions and is based upon analyses previously performed and accepted for like cores. Changes to your proposal have been discussed with and agreed to by your staff.

Copies of the Safety Evaluation and the Notice of Issuance also are enclosed.

Sincerely,

Original Signed by
T. A. Ippolito

Thomas A. Ippolito, Chief
Operating Reactors Branch #2
Division of Licensing

Enclosures:

1. Amendment No. ⁵⁶ to License No. DPR-29
2. Safety Evaluation
3. Notice

cc w/enclosures:
See page 2

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OFFICE	ORB #2	ORB #2	AD/OR	OELD	ORB #2
SURNAME	SNorris	RBevan:mjf	TNovak	Godwin	Tippolito
DATE	6/20/80	6/23/80	6/22/80	6/25/80	6/23/80

Mr. D. Louis Peoples
Commonwealth Edison Company

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June 26, 1980

cc:

Mr. D. R. Stichnoth
President
Iowa-Illinois Gas and
Electric Company
206 East Second Avenue
Davenport, Iowa 52801

U. S. Environmental Protection
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U. S. Nuclear Regulatory Commission
Box 756
Bettendorf, Iowa 52722

Moline Public Library
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Moline, Illinois 61265

Illinois Department of Public Health
ATTN: Chief, Division of Nuclear
Safety
535 West Jefferson
Springfield, Illinois 62761

Mr. Marcel DeJaegher, Chairman
Rock Island County Board
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Rock Island County Court House
Rock Island, Illinois 61201

Director, Technical Assessment Division
Office of Radiation Programs (AW 459)
US EPA
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Arlington, Virginia 20460



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

COMMONWEALTH EDISON COMPANY
AND
IOWA ILLINOIS GAS AND ELECTRIC COMPANY

DOCKET NO. 50-254

QUAD CITIES STATION UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 56
License No. DPR-29

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Commonwealth Edison Company (the licensee) dated June 6, 1980, 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 by this amendment can be conducted without endangering the health 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.C of Facility Operating License No. DPR-29 is hereby amended to read as follows:


C. Restrictions

Operation in the coastdown mode is permitted to 40% power. Should off-normal feedwater heating be necessary for extended periods during coastdown (i.e., greater than 24 hours) the licensee shall perform a safety evaluation to determine if the M CPR Operating Limit and calculated peak pressure for the worst case abnormal operating transient remain bounding for the new condition.

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

FOR THE NUCLEAR REGULATORY COMMISSION


Thomas A. Ippolito, Chief
Operating Reactors Branch #2
Division of Licensing

Date of Issuance: June 26, 1980



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 56 TO FACILITY OPERATING LICENSE NO. DPR-29

COMMONWEALTH EDISON COMPANY
AND
IOWA-ILLINOIS GAS AND ELECTRIC COMPANY

QUAD CITIES STATION UNIT 1

DOCKET NO. 50-254

Introduction

By letter dated June 6, 1980, Commonwealth Edison Company (CECo), proposed an amendment to extend the license coastdown limit from 70% to 40% of reactor power, (Reference 1). CECo has presented previous coastdown mode analyses and justification for the use of these previous analyses for the current amendment proposal.

Discussion

Although the referenced analyses were performed for other specific reactor cycles, they are applicable to this core for the purpose of evaluating margins that are affected by extended coastdown. The analyses assume a linear power decrease with fuel exposure. The analyses show that the safety margins increase for thermal-hydraulic and overpressurization limits. These increased safety margins result from decreasing total power level during coastdown. In the referenced analyses, the void coefficient becomes less negative during coastdown operation and the scram reactivity becomes less effective as a shutdown mechanism. The effect on ΔCPR is a decrease resulting from the former and an increase resulting from the later change. The resultant, however, is a net increase in ΔCPR , which is conservative.

Evaluation

As previously stated, the referenced analyses are not uniquely applicable to this plant and cycle. However, we have previously accepted such analyses, e.g., Reference 2, for specific coastdown operation, where reactor dynamics and fuel performance characteristics have been essentially identical to the analyzed case. On this basis, we agree with the licensee that the overall trend will be the same for the proposed application. This agreement is restricted to a terminal power level of 40%. At 40% power, the scram reactivity insertion will not be degraded sufficiently to result in a transient more severe than that at EOC and will maintain an acceptable shutdown margin. For lower power coastdown operations, we would require cycle specific transient analyses or appropriate justification.

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The assumption of linear power decrease with exposure is conservative because actual reactor power will decrease exponentially. However, we have identified a requirement to assure that operation in the coastdown mode will be within the power level assumptions of the analyses. This requirement is that feedwater heating must be maintained in a "normal" configuration and condition. (With a reduction in feedwater heating, the reactor may achieve a higher power level than assumed in the analysis). Therefore, we and CECO have agreed to incorporate such a requirement in the license restriction.

The licensee's submittal shows that operation in the prescribed coastdown mode will increase thermal-hydraulic and overpressurization safety margins. The operation with a requirement to maintain "normal" feedwater heating will assure that the power level assumptions of the analyses remain valid. On these bases, we find coastdown to 40% power is acceptable.

Environmental Consideration

We have determined that this amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR Section 51.5(d)(4) that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of the amendment.

Conclusions

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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.

Dated: June 26, 1980

References

1. Letter from Robert F. Janecek (CECo) to Director of Nuclear Reactor Regulation, U. S. Nuclear Regulatory Commission, "Quad Cities Station Unit 1, Proposed Amendment to Facility Operating License No. DPR-29 to Extend End-of-Cycle Coastdown Operation, Nuclear Regulatory Commission Docket No. 50-254," June 6, 1980.
2. Letter from T. A. Ippolito (NRC) to C. Reed (CECo), February 23, 1979.

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-254COMMONWEALTH EDISON COMPANY
AND
IOWA-ILLINOIS GAS AND ELECTRIC COMPANYNOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 56 to Facility Operating License No. DPR-29, issued to Commonwealth Edison Company (acting for itself and on behalf of the Iowa-Illinois Gas and Electric Company), which revised the license for operation of the Quad Cities Nuclear Power Station Unit No. 1 (the facility) located in Rock Island County, Illinois. The amendment is effective as of its date of issuance.

The amendment authorizes operation of the reactor beyond the previously analyzed end-of-cycle coastdown conditions and is based upon analyses performed and accepted for like cores.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR Section 51.5(d)(4) an environmental impact statement or negative

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declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated June 6, 1980, (2) Amendment No. 56 to License No. DPR-29, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C., and at the Moline Public Library, 504 - 17th Street, Moline, Illinois 61265. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 26th day of June 1980.

FOR THE NUCLEAR REGULATORY COMMISSION



Thomas A. Ippolito, Chief
Operating Reactors Branch #2
Division of Licensing