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Docket Nos. 50-254

50-265

Commonwealth Edison Company

ATTN: Mr. J. S. Abel

Nuclear Licensing Administrator
Boiling Water Reactors

Post Office Box 767

Chicago, Illinois 60690

Gentlemen:

The Commission has issued the enclosed Amendment Nos. 17 and 14 to Facility License Nos. DPR-29 and DPR-30 for Units 1 and 2 of the Quad Cities Nuclear Power Station, respectively. These amendments are in response to your request dated June 24, 1975, which referred to your letter of June 23, 1975 (corrected by your letter of June 24, 1975) as a basis for the proposed amendments.

These amendments authorize operation of the reactors using the end-of-cycle scram reactivity reduction rate curves.

Copies of the related Safety Evaluation and the Federal Register Notice are also enclosed.

Sincerely,

Original Signed by:
Dennis L. Ziemann

Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Reactor Licensing

Enclosures:

1. Amendment 17 to DPR-29
2. Amendment 14 to DPR-30
3. Safety Evaluation
4. Federal Register Notice

Mr. J. S. Abel of Commonwealth Edison informed me of this issuance by telephone on 7/3/75 R. W. Eicher

CP (1)

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OFFICE	RL:ORB #2	RL:ORB #2	PRL:ORB #2		OELD	RL:AD/ORS
SURNAME	RWReid:ah	RMDiggs	DLZiemann		S.H. Lewis	KRGoller
DATE	6/27/75	6/30/75	7/3/75	7/3/75	7/3/75	6/1/75

July 3, 1975

cc w/enclosures:

Mr. Charles Whitmore
President and Chairman
Iowa-Illinois Gas and
Electric Company
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Moline, Illinois 61265

Mr. Robert W. Watts, Chairman
Rock Island County Board
of Supervisors
Rock Island County Court House
Rock Island, Illinois 61201

cc w/enclosures and cy of CECO
filings dtd. 6/23/75 and 6/24/75:
Mr. Leroy Stratton
Bureau of Radiological Health
Illinois Department of Public Health
Springfield, Illinois 62706

Mr. Gary Williams
Federal Activities Branch
Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

Mr. Ed Vest
Environmental Protection Agency
1735 Baltimore Avenue
Kansas City, Missouri 64108

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 NUCLEAR POWER STATION UNIT 1
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 17
License No. DPR-29

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Commonwealth Edison Company (the licensee) dated June 24, 1975, as supported by a previous filing dated June 23, 1975 as corrected June 24, 1975, 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; and
 - 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.
2. Accordingly, Facility Operating License No. DPR-29, as amended, is hereby further amended by revising in its entirety paragraph 3.C thereof to read as follows:

3.C Restrictions

Beyond the point in the fuel cycle at which the reactivity reduction rate during a scram is less than that of Curve B in Figure 1 of "Supplement B to Dresden Station Special Report 29," dated March 29, 1974, operation of the reactor shall not exceed the core thermal power versus flow conditions defined by the "Nominal Expected 90% Flow Control Line" on Figure 2.1-3 of the Commonwealth Edison letter (J. S. Abel to Benard C. Rusche) dated June 24, 1975.

Beyond the point in the fuel cycle at which the reactivity reduction rate during a scram is less than that of end-of-cycle curve on Figure 1-1 of the Commonwealth Edison letter (J. S. Abel to D. L. Ziemann) dated February 27, 1975, operation of the reactor is not authorized.

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

FOR THE NUCLEAR REGULATORY COMMISSION



Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Reactor Licensing

Date of Issuance: July 3, 1975

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. 14
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 June 24, 1975, as supported by a previous filing dated June 23, 1975 as corrected June 24, 1975, 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; and
 - 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.
2. Accordingly, Facility Operating License No. DPR-30, as amended, is hereby further amended by revising in its entirety paragraph 3.C thereof to read as follows:

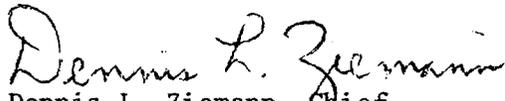
3.C Restrictions

Beyond the point in the fuel cycle at which the reactivity reduction rate during a scram is less than that of Curve B in Figure 1 of "Supplement B to Dresden Station Special Report 29," dated March 29, 1974, operation of the reactor shall not exceed the core thermal power versus flow conditions defined by the "Nominal Expected 90% Flow Control Line" on Figure 2.1-3 of the Commonwealth Edison letter (J. S. Abel to Benard C. Rusche) dated June 24, 1975.

Beyond the point in the fuel cycle at which the reactivity reduction rate during a scram is less than that of end-of-cycle curve on Figure 1-1 of the Commonwealth Edison letter (J. S. Abel to D. L. Ziemann) dated February 27, 1975, operation of the reactor is not authorized.

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

FOR THE NUCLEAR REGULATORY COMMISSION


Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Reactor Licensing

Date of Issuance: July 3, 1975

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NOS. 17 AND 14 TO FACILITY OPERATING LICENSE
NOS. DPR-29 AND DPR-30

COMMONWEALTH EDISON COMPANY AND
IOWA-ILLINOIS GAS AND ELECTRIC COMPANY
QUAD CITIES STATION UNITS 1 AND 2
DOCKET NOS. 50-254 AND 50-265

INTRODUCTION

By application dated June 24, 1975, Commonwealth Edison (CE) requested that the licenses for Quad Cities Units 1 and 2 be amended to provide limits for operation with scram reactivity reduction rates less than that of the generic B curve^{1/}. Amendments numbered 15 and 9 to Facility Operating License Nos. DPR-29 and DPR-30 (respectively) issued April 21, 1975, did not authorize operation beyond that point in the fuel cycle where reactivity reduction rates during scram were less than that of the generic B curve.

DISCUSSION

As discussed in our Safety Evaluation, issued April 21, 1975, which evaluated the adoption of the General Electric Thermal Analysis Basis (GETAB) for analysis of normal operation, anticipated transients, and accidents for Quad Cities Units 1 and 2, the turbine trip with failure of the bypass valves is the most limiting transient. As such, the analysis of this transient results in the largest change in minimum critical power ratio (MCPR) and therefore establishes the limiting condition of operation necessary to assure that the fuel damage safety limit, a MCPR of 1.06, is not exceeded. The analysis of the turbine trip without bypass, provided by CE for Quad Cities Units 1 and 2 in their submittals dated December 20, 1974 and March 27, 1975 with scram reactivity reduction rates greater than or equal to the generic B curve, and with power level at 100 percent of rated resulted in a change in MCPR which would not cause the safety limit MCPR to be exceeded. The rate of reactivity reductions during a scram decreases during the fuel cycle because

1/ "Dresden Station Special Report 29, Supplement B," dated March 29, 1974.

of control rod withdrawal to compensate for fuel burnup and because of the non-uniformity of axial distribution of fuel burnup. For operation with end-of-cycle scram reactivity reduction rates, CE provided an analysis assuming power level was restricted to 90 percent of rated with flow at 100 percent of rated. The results of this analysis were used to establish the limiting condition for operation, a MCPR of 1.29 for 7 x 7 fuel and 1.35 for 8 x 8 fuel. However, the assumed power and flow conditions of 90 percent rated power and 100 percent rated flow did not of themselves establish a complete set of boundary conditions, i.e. transient from 90 percent of rated power and 90 percent of rated flow may result in a greater change in MCPR. Therefore, pending additional analysis, authorization for operation of Quad Cities Units 1 and 2 beyond the generic B scram reactivity reduction rate curve was not authorized.

In lieu of additional analyses CE has provided, in their submittal dated June 24, 1975, a new boundary condition to apply to the analysis submitted December 20, 1974. The new boundary condition is the flow control line (i.e., the curve of core flow rate versus reactor power level at a fixed control rod position) defined at 90 percent reactor power and 100 percent reactor flow for operation with end-of-cycle scram reactivity reduction rates. Provided that reactor operation does not exceed this boundary condition, the results of the turbine trip with failure of bypass transient will not be more severe than that previously analyzed at 90 percent power and 100 percent flow.

CONCLUSIONS

We have concluded that the proposed amendments to the licenses for Quad Cities Units 1 and 2 for operation with end-of-cycle scram reactivity reduction rate curve will maintain the safety margins previously determined for anticipated transients with scram.

We have concluded, based on the considerations discussed above, that: (1) because the change 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 change 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.

Date: July 3, 1975

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NOS. 50-254 AND 50-265

COMMONWEALTH EDISON COMPANY AND

IOWA-ILLINOIS GAS AND ELECTRIC COMPANY

NOTICE OF ISSUANCE OF AMENDMENTS TO FACILITY
OPERATING LICENSES

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment Nos. 17 and 14 to Facility Operating License Nos. DPR-29 and DPR-30 (respectively) issued to the Commonwealth Edison Company (acting for itself and on behalf of the Iowa-Illinois Gas and Electric Company) for operation of the Quad Cities Units 1 and 2 located in Rock Island County, Illinois. These amendments are effective as of their date of issuance.

The amendments change the allowable scram reactivity reduction rates and provide compensating limitations on reactor power level versus core flow rate in accordance with Commonwealth Edison's request dated June 24, 1975, as supported by a previous filing dated June 23, 1975, which was corrected by an additional letter dated June 24, 1975.

The application for these amendments 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 amendments. Prior public notice of these amendments is not required since the amendments do not involve a significant hazards consideration.

For further details with respect to these actions, see (1) the application for these amendments by Commonwealth Edison Company dated June 24, 1975, as supported by a previous filing dated June 23, 1975 which was corrected by an additional letter dated June 24, 1975, (2) Amendment Nos. 17 and 14 to License Nos. DPR-29 and DPR-30, and (3) the Commission's concurrently issued 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, at 504 - 17th Street in Moline, Illinois 60265. A single 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 Reactor Licensing.

Dated at Bethesda, Maryland, 3rd day of July, 1975.

FOR THE NUCLEAR REGULATORY COMMISSION



Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Reactor Licensing