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Docket Nos. 50-254
and 50-265

AUG 9 1976

Commonwealth Edison Company
ATTN: Mr. R. L. Bolger
Assistant Vice President
Post Office Box 767
Chicago, Illinois 60690

Gentlemen:

In response to your request dated April 22, 1976, the Commission has issued the enclosed Amendment Nos. 29 and 28 to Facility Operating License Nos. DPR-29 and DPR-30 for Unit Nos. 1 and 2 of the Quad Cities Nuclear Power Station, respectively.

These amendments revise the Technical Specifications to change the operating environment temperature limit for main steam isolation valve pilot valves from 150 F to 170 F.

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

Sincerely,

Original signed by
Dennis L. Ziemann

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

Enclosures:
1. Amendment No. 29 to License No. DPR-29
2. Amendment No. 28 to License No. DPR-30
3. Safety Evaluation
4. Notice

cc w/enclosures:
See next page

Inquiries closed through V. Stello (via Pat Hing) at 11:35 on 8/5/76 RD

OFFICE	OR:ORB #2	OR:ORB #2	OR:ORB #2	OT	OELD	OR:ORB #2
SURNAME	RMDiggs	MFletcher:ro	PWO'Connor		D Swanson	DLZiemann
DATE	7/22/76	7/22/76	7/22/76	7/22/76	8/2/76	8/9/76

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

August 9, 1976

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and 50-265

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cc w/enclosures:
See next page

cc w/enclosures:
Mr. Charles Whitmore
President and Chairman
Iowa-Illinois Gas and
Electric Company
206 East Second Avenue
Davenport, Iowa 52801

Mr. John W. Rowe
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Moline Public Library
504 - 17th Street
Moline, Illinois 61265

Mr. William Waters
Chairman, Board of Supervisors
of Grundy County
Grundy County Courthouse
Morris, Illinois 60450

cc w/enclosures and cy of CECo
filing dtd. 4/22/76:
Mr. Leroy Stratton
Bureau of Radiological Health
Illinois Department of Public Health
Springfield, Illinois 62706

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 NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 29
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 April 22, 1976, 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.

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

FOR THE NUCLEAR REGULATORY COMMISSION

Dennis L. Ziemann

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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 9, 1976

ATTACHMENT TO LICENSE AMENDMENT NO. 29

FACILITY OPERATING LICENSE NO. DPR-29

DOCKET NO. 50-254

Replace existing page 158 of the Appendix A portion of the Technical Specifications with the attached revised page 158. Changed areas on the revised page are shown by marginal lines.

3.7 LIMITING CONDITION FOR OPERATION	4.7 SURVEILLANCE REQUIREMENT
4. The temperature of the main steamline air pilot valves shall be less than 170°F except as specified in Specifications 3.7.D.5 and 3.7.D.6 below.	
5. From and after the date that the temperature of any main steamline air pilot valve is found to be greater than 170°F, reactor operation is permissible only during the succeeding seven days unless the temperature of such valve is sooner reduced to less than 170°F, provided the main steamline isolation valves are operable.	
6. If Specification 3.7.D.5 cannot be met, the main steamline isolation valve shall be considered inoperable and action taken in accordance with Specification 3.7.D.2.	

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 NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 28
License No. DPR-30

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by the Commonwealth Edison Company (the licensee) dated April 22, 1976, 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.

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

FOR THE NUCLEAR REGULATORY COMMISSION

Dennis L. Ziemann

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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 9, 1976

ATTACHMENT TO LICENSE AMENDMENT NO. 28

FACILITY OPERATING LICENSE NO. DPR-30

DOCKET NO. 50-265

Replace existing page 158 of the Appendix A portion of the Technical Specifications with the attached revised page 158. Changed areas on the revised page are shown by marginal lines.

3.7 LIMITING CONDITION FOR OPERATION	4.7 SURVEILLANCE REQUIREMENT
4. The temperature of the main steamline air pilot valves shall be less than 170°F except as specified in Specifications 3.7.D.5 and 3.7.D.6 below.	
5. From and after the date that the temperature of any main steamline air pilot valve is found to be greater than 170°F, reactor operation is permissible only during the succeeding seven days unless the temperature of such valve is sooner reduced to less than 170°F, provided the main steamline isolation valves are operable.	
6. If Specification 3.7.D.5 cannot be met, the main steamline isolation valve shall be considered inoperable and action taken in accordance with Specification 3.7.D.2.	

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NOS. 29 AND 28 TO
LICENSE NOS. DPR-29 AND DPR-30

COMMONWEALTH EDISON COMPANY
AND
IOWA-ILLINOIS GAS AND ELECTRIC COMPANY

QUAD CITIES POWER STATION UNIT NOS. 1 AND 2

DOCKET NOS. 50-254 AND 50-265

INTRODUCTION

By letter dated April 22, 1976, Commonwealth Edison Company (CECo) requested to change the Technical Specification limit for Main Steam Isolation Valve (MSIV) pilot valve operating temperature from the present limit of 150°F to a new limit of 170°F. The pilot valves for each MSIV consist of a set of air operated and solenoid operated valves which control the supply of air to the MSIV actuating piston. The pilot valves control MSIV opening, closing, and partial cycling for testing.

DISCUSSION

During startup testing at Dresden Station Unit No. 2, several MSIV's failed to close because the respective pilot valves did not operate. Similar failures of pilot valves have been experienced at other boiling water reactor plants. The pilot valves in use at the time of these failures were designed with extremely small internal clearances and for use with oil-free instrument quality air. Two potential causes of valve failure were identified. First, oil and particulate contamination from the air supply system were building up inside the valves and preventing their operation. The oil contamination, in combination with high valve operating temperature, formed a sticky coating on the valve internals. Second, unequal thermal expansion of the pilot valve internal components caused binding of the valves at temperatures above 150°F. To reduce the likelihood of pilot valve failure, Technical Specifications were imposed on Quad Cities Unit Nos. 1 and 2 to limit the operating temperature of MSIV pilot valves to less than 150°F.

Since the limit on pilot valve operating temperature was established, equipment modifications have been made to prevent the occurrence of pilot valve failure. CECo has cleaned the air supply systems to remove dirt and oil. To ensure that oil and other contaminants are not introduced into the pneumatic supply for MSIV pilot valves outside of primary containment, the plant instrument air is supplied by oil-free non-lubricated compressors. The MSIV pilot valves inside primary containment are supplied dry oil-free nitrogen by a closed loop system which takes a suction on the drywell atmosphere and discharges to the pilot valves and other equipment, through filters, moisture separator, gas dryer and a 250-gallon receiver. In addition, the pilot valves have been replaced by a new type valve. The new pilots have greater internal clearances and use elastomeric seals. The new valves are described in General Electric Document APED-5750, Supplements 1 and 2. Since they do not incorporate small internal clearances, the new valves are less susceptible to sticking because of oil or particulate contamination; and they are not prone to binding because of differential expansion of metal parts at elevated temperatures. General Electric has specified a nominal operating temperature for the new valves of 150°F and a peak normal temperature of 185°F, as qualified by a 30-day normal operation test. During the test, two typical control valve assemblies, subjected to 185°F temperature, were cycled one hundred times continuously; cycled 10 times at 12-hour intervals; and cycled 5 times at 120-hour intervals. Both assemblies functioned properly throughout the test.

Until the recent operation on closed cycle cooling for Quad Cities Unit Nos. 1 and 2, meeting the pilot valve Technical Specification limit of 150°F was possible even in the summer. However, because operation of the Quad Cities Nuclear Power Station Unit Nos. 1 and 2 on closed cycle has resulted in significant increases in service water temperature, CECo anticipates difficulty remaining below the temperature limit during operation on hot summer days. Therefore, CECo has proposed to increase the operating temperature limit to 170°F.

EVALUATION

We have reviewed the proposed Technical Specification and concluded that:

1. The proposed increase in temperature limit to 170°F would not increase the probability of pilot valve sticking from oil or particulate contamination because of the modification of the pilot valve gas supply systems to dry oil-free conditions. Also, the elastomeric seals in the new type pilot valve installed at Quad Cities Unit Nos. 1 and 2 render them less likely to stick because of oil or particulate contamination.

2. The proposed increase in temperature limit to 170°F would not significantly increase the probability of binding associated with differential thermal expansion of valve components because the new pilot valves are designed with greater internal clearances and elastomeric seals.

3. The proposed temperature limit of 170°F would still be below the 185°F peak normal operating temperature specified by General Electric.

Based on the above conclusions, we have determined that the proposed change of MSIV pilot valve temperature limit to 170°F is acceptable.

ENVIRONMENTAL CONSIDERATIONS

We have determined that the amendments do 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 amendments involve an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental statement, negative declaration or environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

CONCLUSION

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

Date: August 9, 1976

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NOS. 50-254 AND 50-265

COMMONWEALTH EDISON COMPANY
AND
IOWA-ILLINOIS GAS & ELECTRIC COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment Nos. 29 and 28 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) which revised Technical Specifications for operation of the Quad Cities Nuclear Power Station Unit Nos. 1 and 2 (the facilities), located in Rock Island County, Illinois. The amendments are effective as of their date of issuance.

These amendments revised the Technical Specifications to change the operating environment temperature limit for main steam isolation valve pilot valves from 150°F to 170°F.

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

The Commission has determined that the issuance of these amendments will not result in any significant environmental impact and that pursuant to 10 CFR 51.5(d)(4) an environmental impact statement, negative declaration or environmental impact appraisal need not be prepared in connection with issuance of the amendments.

For further details with respect to this action, see (1) the application for the amendments dated April 22, 1976, (2) Amendment No. 29 to License No. DPR-29, (3) Amendment No. 28 to License No. DPR-30, and (4) 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, 504 - 17th Street, Moline, Illinois 60265. A single copy of items (2) through (4) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this ninth day of August, 1976.

FOR THE NUCLEAR REGULATORY COMMISSION

Dennis L. Ziemann

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