

APR 16 1976

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Docket Nos. 50-254  
50-265

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

Gentlemen:

The Commission has issued the enclosed Amendment Nos. 27 and 25 to Facility License Nos. DPR-29 and DPR-30 for the Quad Cities Nuclear Power Station Units 1 and 2. The amendments consist of changes in the Technical Specifications that modify the use of existing isolation valves which serve as part of the new nitrogen recirculation system in response to your request dated April 12, 1976 and your related filing dated March 12, 1976.

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

Sincerely,

Original Signed by:  
Dennis L. Ziemann

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

Enclosures:

1. Amendment No. 27 to License DPR-29
2. Amendment No. 25 to License DPR-30
3. Safety Evaluation
4. Notice

*Notified CECOs by telephone on 4/16/76 that this amendment is effective today.*

cc w/enclosures:  
See next page

OFFICE →	DOR:ORB #2	DOR:ORB #2	OELD <i>T Bruen</i>	DOR:ORB #2	DOR:PSB	DOR:AP/OE
SURNAME →	<i>RMDiggs</i>	PWO' Connor:ah	<i>T. Bruen</i>	DLZiemann	ASchwencer	DEisenhut
DATE →	4/13/76	4/13/76	4/14/76	4/14/76	4/14/76	4/15/76

APR 13 1976

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  
Isham, Lincoln & Beale  
Counselors at Law  
One First National Plaza, 42nd Floor  
Chicago, Illinois 60603

Anthony Z. Roisman, Esquire  
Roisman, Kessler and Cashdan  
1712 N Street, N. W.  
Washington, D. C. 20036

Moline Public Library  
504 - 17th Street  
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's  
filings dtd. 3/12/76 and 4/12/76:  
Mr. Leroy Stratton  
Bureau of Radiological Health  
Illinois Department of Public Health  
Springfield, Illinois 62706

COMMONWEALTH EDISON COMPANY  
AND  
IOWA-ILLINOIS GAS AND ELECTRIC COMPANY

DOCKET NO. 50-254

QUAD CITIES UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 27  
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 12, 1976, and a related filing dated March 12, 1976, comply 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. An environmental statement or negative declaration need not be prepared in connection with the issuance of this amendment.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment.
3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed by:

Dennis L. Ziemann

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

Attachment:

OFFICE →	Charges to the Technical Specifications				
SURNAME →					
DATE →	Date of Issuance:	APR 16 1976			

ATTACHMENT TO LICENSE AMENDMENT NOS. 27 AND 25

FACILITY OPERATING LICENSE NOS. DPR-29 AND DPR-30

DOCKET NOS. 50-254 AND 50-265

Replace existing pages 159 and 160 of the Technical Specifications with attached revised pages. Changes on these pages are denoted by marginal lines.

OFFICE >						
SURNAME >						
DATE >						

QUAD CITIES TECHNICAL SPECIFICATIONS

TABLE 3.7.1

PRIMARY CONTAINMENT ISOLATION

Isolation Group	Valve Identification	Valve Number for Units 1 & 2	# of Power Operated Valves		Max. Operat. Time (Sec's)	Normal Operat. Position	Action on Initiating Signal
			In-Board	Out-Board			
<u>Main Steam Isolation</u>							
1	Mn Stm Isolation Valve	AO-203-1A,1B,1C,1D	4		*3<T<5	O	GC
1	Mn Stm Isolation Valve	AO-203-2A,2B,2C,2D		4	*3<T<5	O	GC
1	Mn Stm Drain Iso.Valve	MO-220-1	1		<35	C	SC
1	Mn Stm Drain Iso.Valve	MO-220-2		1	<35	C	SC
<u>Sampling</u>							
Note 1	Recirc.Sample Valve	AO-220-44	1		<5	O	GC
1	Recirc.Sample Valve	AO-220-45		1	<5	O	GC
<u>RHR</u>							
2	RHR Discharge to Radwste	MO-1001-20	1		<25	C	SC
2	RHR Discharge to Radwste	MO-1001-21		1	<25	C	SC
2	Rx Shtdn Cooling Supply	MO-1001-47		1	<40	C	SC
2	Rx Shtdn Cooling Supply	MO-1001-50	1		<40	C	SC
2	Reactor Head Spray	MO-1001-60		1	<25	C	SC
2	Reactor Head Spray	MO-1001-63	1		<25	C	SC
<u>Pressure Suppression</u>							
2	Drywell Purge Valve	AO-1601-21	1		<10	C	SC
2	Vent Valve	AO-1601-22		1	<10	C	SC
2	Drywell Vent Valve	AO-1601-23	1		<10	C	SC
2	Vent to Rx Bldg Exh Sys.	AO-1601-24		1	<10	O	GC
2	Nitrogen Purge	AO-1601-55		1	<10	O	GC
2	Torus Purge Valve	AO-1601-56	1		<10	O	GC
2	Make Up Valve	MO-1601-57	1		<15		

\* Minimum

Note 1: Valve can be reopened after isolation for sampling.

QUAD CITIES TECHNICAL SPECIFICATIONS

TABLE 3.7.1 (cont'd)

Isolation Group	Valve Identification	Valve Number for Units 1 & 2	# of Power Operated Valves		Max. Operat. Time (Sec's)	Normal Operat. Position	Action on Initiating Signal
			In-Board	Out-Board			
2	Torus Make Up Valve	AO-1601-58		1	<15	C	SC
2	Drywell Make Up Valve	AO-1601-59		1	<15	O	CC
2	Torus Vent Valve	AO-1601-60	1		<10	C	SC
2	Torus 2" Vent Relief	AO-1601-61	1		<15	C	SC
2	Drywell 2" Vent Relief	AO-1601-62	1		<15	C	SC
2	Vent to S.C.T. System	AO-1601-63		1	<10	C	SC
2	Drywell Pneumatic Supply Isolation	AO-4720		2	<10	O	CC
		AO-4721					
	<u>Radwaste</u>						
Note 1 (2)	Drywell Fl.Dr.Disch.	AO-2001-3	1		<20	O	CC
(2)	Drywell Fl.Dr.Disch.	AO-2001-4		1	<20	O	CC
(2)	Drywell Equip.Dr.Disch.	AO-2001-15	1		<20	O	CC
(2)	Drywell Equip.Dr.Disch.	AO-2001-16		1	<20	O	CC
	<u>Oxygen Analyzer</u>						
2	Oxy.Analyzer Valve	AO-8801-A,B,C,D	4		<10	O	CC
2	Oxy.Analyzer Valve	AO-8802-A,B,C,D		4	<10	O	CC
2	Oxy.Analyzer Valve	AO-8803A	1		<10	O	CC
2	Oxy.Analyzer Valve	AO-8803B		1	<10	O	CC
	<u>Traversing Incore Probe</u>						
2	On isolation signal, the T.I.P. detector is withdrawn if in use; five ball valves and one nitrogen purge are then closed.	T.I.P. Ball Valve 700-733					
		T.I.P. Purge Valve Assembly 700-743					

Note 1: Valve can be reopened after isolation for sampling.

COMMONWEALTH EDISON COMPANY  
AND  
IOWA-ILLINOIS GAS AND ELECTRIC COMPANY

DOCKET NO. 50-265

QUAD CITIES UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 25  
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 12, 1976, and a related filing dated March 12, 1976, comply 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. An environmental statement or negative declaration need not be prepared in connection with the issuance of this amendment.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment.
3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION  
Chief, signed by:  
Dennis L. Ziemann

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

Attachment:

OFFICE	Changes to the Technical Specifications				
SURNAME					
DATE	Date of Issuance:	APR 16	1976		

ATTACHMENT TO LICENSE AMENDMENT NOS. 27 AND 25

FACILITY OPERATING LICENSE NOS. DPR-29 AND DPR-30

DOCKET NOS. 50-254 AND 50-265

Replace existing pages 159 and 160 of the Technical Specifications with attached revised pages. Changes on these pages are denoted by marginal lines.

QUAD CITIES TECHNICAL SPECIFICATIONS

TABLE 3.7.1

PRIMARY CONTAINMENT ISOLATION

Isolation Group	Valve Identification	Valve Number for Units 1 & 2	# of Power Operated Valves		Max. Operat. Time (Sec's)	Normal Operat. Position	Action on Initiating Signal
			In-Board	Out-Board			
<u>Main Steam Isolation</u>							
1	Mn Stm Isolation Valve	AO-203-1A,1B,1C,1D	4		*3<T<5	0	GC
1	Mn Stm Isolation Valve	AO-203-2A,2B,2C,2D		4	*3<T<5	0	GC
1	Mn Stm Drain Iso.Valve	MO-220-1	1		<35	C	SC
1	Mn Stm Drain Iso.Valve	MO-220-2		1	<35	C	SC
<u>Sampling</u>							
Note 1	(1) Recirc.Sample Valve	AO-220-44	1		<5	0	GC
1	(1) Recirc.Sample Valve	AO-220-45		1	<5	0	GC
<u>RHR</u>							
2	RHR Discharge to Radwste	MO-1001-20	1		<25	C	SC
2	RHR Discharge to Radwste	MO-1001-21		1	<25	C	SC
2	Rx Shtdn Cooling Supply	MO-1001-47		1	<40	C	SC
2	Rx Shtdn Cooling Supply	MO-1001-50	1		<40	C	SC
2	Reactor Head Spray	MO-1001-60		1	<25	C	SC
2	Reactor Head Spray	MO-1001-63	1		<25	C	SC
<u>Pressure Suppression</u>							
2	Drywell Purge Valve	AO-1601-21	1		<10	C	SC
2	Vent Valve	AO-1601-22		1	<10	C	SC
2	Drywell Vent Valve	AO-1601-23	1		<10	C	SC
2	Vent to Rx Bldg Exh Sys.	AO-1601-24		1	<10	C	SC
2	Nitrogen Purge	AO-1601-55		1	<10	0	GC
2	Torus Purge Valve	AO-1601-56	1		<10	0	GC
2	Make Up Valve	MO-1601-57	1		<15	0	GC

\* Minimum

Note 1: Valve can be reopened after isolation for sampling.

QUAD CITIES TECHNICAL SPECIFICATIONS

TABLE 3.7.1 (cont'd)

Isolation Group	Valve Identification	Valve Number for Units 1 & 2	# of Power Operated Valves		Max. Operat. Time (Sec's)	Normal Operat. Position	Action on Initiating Signal
			In-Board	Out-Board			
2	Torus Make Up Valve	AO-1601-58		1	<15	C	SC
2	Drywell Make Up Valve	AO-1601-59		1	<15	O	CC
2	Torus Vent Valve	AO-1601-60	1		<10	C	SC
2	Torus 2" Vent Relief	AO-1601-61	1		<15	C	SC
2	Drywell 2" Vent Relief	AO-1601-62	1		<15	C	SC
2	Vent to S.C.T. System	AO-1601-63		1	<10	C	SC
2	Drywell Pneumatic Supply Isolation	AO-4720		2	<10	O	CC
		AO-4721					
	<u>Radwaste</u>						
Note 1 (2)	Drywell Fl.Dr.Disch.	AO-2001-3	1		<20	O	CC
(2)	Drywell Fl.Dr.Disch.	AO-2001-4		1	<20	O	CC
(2)	Drywell Equip.Dr.Disch.	AO-2001-15	1		<20	O	CC
(2)	Drywell Equip.Dr.Disch.	AO-2001-16		1	<20	O	CC
	<u>Oxygen Analyzer</u>						
2	Oxy.Analyzer Valve	AO-8801-A,B,C,D	4		<10	O	CC
2	Oxy.Analyzer Valve	AO-8802-A,B,C,D		4	<10	O	CC
2	Oxy.Analyzer Valve	AO-8803A	1		<10	O	CC
2	Oxy.Analyzer Valve	AO-8803B		1	<10	O	CC
2	<u>Traversing Incore Probe</u>						
	On isolation signal, the T.I.P. detector is withdrawn if in use; five ball valves and one nitrogen purge are then closed.	T.I.P. Ball Valve 700-733					
		T.I.P. Purge Valve Assembly 700-743					

Note 1: Valve can be reopened after isolation for sampling.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NOS. 27 AND 25 TO FACILITY LICENSE

NOS. DPR-29 AND DPR-30

COMMONWEALTH EDISON COMPANY  
AND  
IOWA-ILLINOIS GAS AND ELECTRIC COMPANY

QUAD CITIES UNITS 1 AND 2

BUCKET NOS. 50-254 AND 50-265

INTRODUCTION

By letter dated April 12, 1976, and an earlier filing dated March 12, 1976, the Commonwealth Edison Company (CECo) requested an amendment to Operating License Nos. DPR-29 and DPR-30 for the Quad Cities Nuclear Power Station Units 1 and 2. The request involves revisions to the Technical Specifications with regard to the modification of usage of existing automatic isolation valves associated with the installation of a nitrogen recirculation system.

BACKGROUND

As a result of recent structural analyses performed in conjunction with a generic review of pressure-suppression pool dynamic loads for the General Electric BWR Mark I containments, it was determined that if pool dynamic loads resulting from a postulated loss-of-coolant accident (LOCA) are considered, the margin of safety in the containment design for Units 1 and 2 of the Quad Cities Nuclear Power Station is lower than originally intended. Subsequently, the Commonwealth Edison Company (the licensee) agreed to institute a "differential pressure control system" to mitigate the pool dynamic loads and thereby restore the margin of safety in the containment design. The differential pressure control system would establish a positive differential pressure between the drywell and torus regions of the containment. This would reduce the height of the water leg in the downcomers and subsequently would reduce the LOCA hydrodynamic loads.

*original  
collected*

To control combustible gases following a postulated loss-of-coolant accident, the drywell atmosphere is inerted with nitrogen during normal operation. The inclusion of a positive differential pressure between the drywell and torus results in a loss of nitrogen from the drywell to the torus airspace from leakage through the vacuum breakers on the vent headers. To minimize the loss of nitrogen from the system, the licensee has proposed a recirculation system which would collect the nitrogen in the torus and return it to the drywell.

## DISCUSSION AND EVALUATION

The recirculation system provides a connection between the existing suppression chamber purge line and the drywell make-up line. The recirculation line takes suction from the suppression chamber purge line and branches into two parallel flow paths, each containing two shutoff valves, a blower, a check valve, and a downstream shutoff valve in series. The parallel lines rejoin and discharge into the nitrogen make-up line. The existing nitrogen purge and torus automatic isolation valves on the suppression chamber purge line would be changed from a normally closed position to a normally open position to provide the flow path from the torus airspace to the drywell. The existing automatic torus make-up valve on the nitrogen make-up line would be changed from normally open to normally closed.

We have reviewed the proposed recirculation system for the Quad Cities Nuclear Power Station with regard to both containment isolation capability and potential adverse effects on a postulated loss-of-coolant accident. The outboard isolation valve, AO-1601-55, is an air operated valve which is open when the valve solenoid is energized and will close upon the receipt of a Group 2 isolation signal, the loss of the instrument bus associated with the outboard isolation valves, or the loss of instrument air. The inboard isolation valve, AO-1601-56, receives power from a separate instrument bus, and similarly will close upon loss of its instrument bus, on loss of instrument air or upon receipt of a Group 2 isolation signal. The position of both valves will be indicated in the control room, and the valves will be leak tested in accordance with Appendix J to 10 CFR 50.

A recirculation system could have an effect on the consequences of a postulated loss-of-coolant accident by allowing steam bypass of the pressure-suppression pool by direct communication of the drywell and the suppression chamber airspace. However, one section of the recirculation line is a one inch diameter pipe. The low mass flow rate associated with this size line in conjunction with the redundant capability to isolate both the suppression chamber purge line and the nitrogen make-up line will result in a negligible amount of steam bypass. In addition, there will be a swing-disc check valve, located down stream of each blower, which would prevent reverse flow from the drywell and further lessen the chance of steam bypass. Therefore, the proposed design assures that the installation would have a negligible effect on a loss-of-coolant accident.

ENVIRONMENTAL CONSIDERATION

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 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 changes do not involve a significant increase in the probability or consequences of accidents previously considered and do not involve a significant decrease in a safety margin, the changes do 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 the public.

Date: APR 16 1978

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

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment Nos. 27 and 25 to Facility Operating License Nos. DPR-29 and DPR-30 (respectively), issued to 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 Station Units 1 and 2 (the facilities) located in Rock Island County, Illinois. The amendments are effective as of their date of issuance.

The amendments modify the use of existing isolation valves which serve as part of the new nitrogen recirculation system.

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 was not required since the amendments do not involve a significant hazards consideration.

OFFICE ➤						
SURNAME ➤						
DATE ➤						

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 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 these amendments dated April 12, 1976, and a related filing dated March 12, 1976, (2) Amendment Nos. 27 and 25 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, 504 - 17th Street, Moline, Illinois 60625. 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 Operating Reactors.

Dated at Bethesda, Maryland, this APR 16 1976

FOR THE NUCLEAR REGULATORY COMMISSION

Dennis L. Ziemann

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

OFFICE ➤						
SURNAME ➤						
DATE ➤						

DETERMINATION OF PROPOSED LICENSING AMENDMENT

Licensee: Commonwealth Edison Company (Quad Cities 1/2; Dresden 2/3)

Request for: Modification of technical specification listing isolation valve normal position

Request Date: April 12, 1976

Proposed Noticing Action: ( ) Pre-notice Recommended  
(x) Post-notice Recommended  
( ) Determination delayed pending completion of Safety Evaluation

Basis for Decision: 3 automatically operated containment isolation valves which are normally closed are being used as part of the licensee's torus to drywell recirculation system. In the new system these valves will be normally open and will close automatically upon receipt of a containment isolation signal. This new mode of operation does not create a new type of accident or increase the probability of an accident previously considered because the valves were considered to be open in previous evaluation and were closed by the containment isolation signal. No change is being made in the valve closure time specification for these valves.

Proposed NEPA Action: ( ) EIS Required  
( ) Negative Declaration (ND) and Environmental Impact Appraisal (EIA) Required  
(x) No EIS, ND or EIA Required  
( ) Determination delayed pending completion of EIA

Basis for Decision: Use of the N<sub>2</sub> recirculation system reduces substantially the need for intermittent flow through the HEPA filters and charcoal absorbers of the standby gas treatment system to remove N<sub>2</sub> from the torus and thus maintain the required ΔP. Such reduction of flow will aid in assuring that the standby gas treatment system retains the capability to perform its safety function. The technical specification change does not authorize an increase in power level nor a change in effluent types or total amounts and will not result in any significant environmental impact.

Noticing Concurrences:

- |                          | Date                         |
|--------------------------|------------------------------|
| 1. <u>P. W. O'Connor</u> | <u>Paul W. O'Connor</u> 4/12 |
| 2. <u>R. D. Silver</u>   | <u>R. D. Silver</u> 4/12     |
| 3. <u>D. L. Ziemann</u>  | <u>R. D. Silver for</u> 4/12 |
| 4. <u>K. R. Goller</u>   | <u>KRG</u> 4/13              |
| 5. <u>OELD</u>           | <u>T. BRUEN</u> 4/14         |