June 6, 1984

Docket Nos. 50-254/265

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 Nos. 88 and 83 to Facility Operating License Nos. DPR-29 and DPR-30 for the Quad Cities Nuclear Power Station, Units 1 and 2, respectively. These amendments consist of changes to the Technical Specifications in response to your application dated April 25, 1983.

The amendments incorporate Technical Specification provisions which specify the time-delay settings for high steam flow for the high pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) systems for these units, and are designed to prevent inadvertent isolation of these systems.

A copy of the related Safety Evaluation is also enclosed.

Sincerely,

RBBevan

Roby B. Bevan, Project Manager
Operating Reactors Branch #2
Division of Licensing

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Enclosures:
1. Amendment No. 88 to License No. DPR-29
2. Amendment No. 83 to License No. DPR-30
3. Safety Evaluation

cc w/enclosures:
See next page

DISTRIBUTION	DEisenhut	ELJordan	CPatel
Docket File	SNorris	JNGrace	ACRS (10)
NRC PDR	RBevan	TBarnhart (8)	OPA, CMiles
Local PDR	OELD	WJones	RDiggs
ORB#2 Reading	LJHarmon	DBrinkman	Gray File & Extra - 5

DL:ORB#2	DL:ORB#2	DL:ORB#2	OELD	DL:AD-OR
SNorris:ajs	RBevan	DVassallo		GLainas
05/9/84	05/16/84	05/16/84	05/22/84	05/31/84

Mr. Dennis L. Farrar
Commonwealth Edison Company
Quad Cities Nuclear Power Station, Units 1 and 2

cc:

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

Robert G. Fitzgibbons, Jr.
Isham, Lincoln & Beale
Three First National Plaza
Suite 5200
Chicago, Illinois 60602

Mr. Nick Kalivianakas
Plant Superintendent
Quad Cities Nuclear Power Station
22710 - 206th Avenue - North
Cordova, Illinois 61242

Resident Inspector
U. S. Nuclear Regulatory Commission
22712 206th Avenue North
Cordova, Illinois 61242

Chairman,
Rock Island County Board
of Supervisors
Rock Island County Court House
Rock Island, Illinois 61201

James G. Keppler
Regional Administrator
Region III Office
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

U. S. Environmental Protection
Agency
Region V Office
Regional Radiation Representative
230 South Dearborn Street
Chicago, Illinois 60604

Susan N. Sekuler
Assistant Attorney General
Environmental Control Division
188 W. Randolph Street
Suite 2315
Chicago, Illinois 60601

The Honorable Tom Corcoran
United States House of Representatives
Washington, D. C. 20515

Mr. Gary N. Wright, Manager
Nuclear Facility Safety
Illinois Department of Nuclear Safety
1035 Outer Park Drive, 5th Floor
Springfield, Illinois 62704

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. 88
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 April 25, 1983, 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 2.C.(2) of Facility Operating License No. DPR-29 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. 88, 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: June 6, 1984

ATTACHMENT TO LICENSE AMENDMENT NO. 88

FACILITY OPERATING LICENSE NO. DPR-29

DOCKET NO. 50-254

Revise the Technical Specifications by deleting the following pages and inserting the enclosed pages.

PAGE
3.2/4.2-11
3.2/4.2-16
3.2/4.2-17

TABLE 3.2-1

INSTRUMENTATION THAT INITIATES PRIMARY CONTAINMENT ISOLATION FUNCTIONS

Minimum Number of Operable or Tripped Instrument Channels[1]	Instruments	Trip Level Setting	Action[2]
4	Reactor low water[5]	>144 inches above top of active fuel*	A
4	Reactor low low water	≥84 inches above top of active fuel*	A
4	High drywell pressure[5]	≤2 psig[3]	A
16	High flow main steamline[5]	≤140% of rated steam flow	B
16	High temperature main steamline tunnel	≤200°F	B
4	High radiation main steamline tunnel[6]	≤7 x normal rated power background	B
4	Low main steam pressure[4]	≥825 psig	B
4	High flow RCIC steamline	≤300% of rated steam flow[7]	C
16	RCIC turbine area high temperature	≤200°F	C
4	High flow HPCI steamline	≤300% of rated steam flow[7]	D
16	HPCI area high temperature	≤200°F	D

Notes

1. Whenever primary containment integrity is required, there shall be two operable or tripped systems for each function, except for low pressure main steamline which only need be available in the Run position.
2. Action. If the first column cannot be met for one of the trip systems, that trip system shall be tripped.

   If the first column cannot be met for both trip systems, the appropriate actions listed below shall be taken:

   A. Initiate an orderly shutdown and have the reactor in Cold Shutdown condition in 24 hours.

   B. Initiate an orderly load reduction and have reactor in Hot Standby within 8 hours.

   C. Close isolation valves in RCIC system.

   D. Close isolation valves in HPCI subsystem.
3. Need not be operable when primary containment integrity is not required.
4. The isolation trip signal is bypassed when the mode switch is in Refuel or Startup/Hot Shutdown.
5. This instrumentation also isolates the control room ventilation system.
6. This signal also automatically closes the mechanical vacuum pump discharge line isolation valves.
7. Includes a time delay of 3 ≤ t ≤ 10 seconds.

Top of active fuel is defined as 360" above vessel zero for all water levels used in the LOCA analysis (see Bases 3.2).

TABLE 4.2-1

MINIMUM TEST AND CALIBRATION FREQUENCY FOR CORE AND CONTAINMENT COOLING SYSTEMS INSTRUMENTATION, ROD BLOCKS, AND ISOLATIONS[7]

Instrument Channel	Instrument Functional Test[2]	Calibration[2]	Instrument Check[2]
ECCS Instrumentation			
1. Reactor low-low water level	(1)	Once/3 months	Once/day
2. Drywell high pressure	(1)	Once/3 months	None
3. Reactor low pressure	(1)	Once/3 months	None
4. Containment spray interlock			
a. 2/3 core height	(1)	Once/3 months	None
b. Containment pressure	(1)	Once/3 months	None
5. Low-pressure core cooling pump discharge	(1)	Once/3 months	None
6. Undervoltage 4-kV essential	Refueling outage	Refueling outage	None
Rod Blocks			
1. APRM downscale	(1) (3)	Once/3 months	None
2. APRM flow variable	(1) (3)	Refueling outage	None
3. IRM upscale	(5) (3)	(5) (3)	None
4. IRM downscale	(5) (3)	(5) (3)	None
5. RBM upscale	(1) (3)	Refueling outage	None
6. RBM downscale	(1) (3)	Once/3 months	None
7. SRM upscale	(5) (3)	(5) (3)	None
8. SRM detector not in startup position	(5) (3)	(6)	None
9. IRM detector not in startup position	(5)	(6)	None
10. SRM downscale	(5) (3)	(5) (3)	None
11. High water level in scram discharge volume (SDV)	Once/3 months	Not applicable	None
12. SDV high level trip bypassed	Refueling outage	Not applicable	None
Main Steamline Isolation			
1. Steam tunnel high temperature	Refueling outage	Refueling outage	None
2. Steamline high flow	(1)	Once/3 months	Once/day
3. Steamline low pressure	(1)	Once/3 months	None
4. Steamline high radiation	(1) (4)	Refueling outage	Once/day
5. Reactor low low water level	(1)	Once/3 months	Once/day
RCIC Isolation			
1. Steamline high flow	Once/3 months (8)	Once/3 months (8)	None
2. Turbine area high temperature	Refueling outage	Refueling outage	None
3. Low reactor pressure	Once/3 months	Once/3 months	None

TABLE 4.2-1 (Cont'd)

Instrument Channel	Instrument Functional Test[2]	Calibration[2]	Instrument Check[2]
HPCI Isolation			
1. Steamline high flow	(1) ( )	Once/3 months (8)	None
2. Steamline area high temperature	Refueling outage	Refueling outage	None
3. Low reactor pressure	(1)	Once/3 months	None
Reactor Building Ventilation System Isolation And Standby Treatment System Initiation			
1. Ventilation exhaust duct radiation monitors	(1)	Once/3 months	Once/day
2. Refueling floor radiation monitors	(1)	Once/3 months	Once/day
Steam Jet Air Ejector Off-Gas Isolation			
1. Off-gas radiation monitors	(1) (4)	Refueling outage	Once/day
Control Room Ventilation System Isolation			
1. Reactor low water level	(1)	Once/3 months	Once/day
2. Drywell high pressure	(1)	Once/3 months	None
3. Main steamline high flow	(1)	Once/3 months	Once/day
4. Ventilation exhaust duct radiation monitors	(1)	Once/3 months	Once/day

Notes

1. Initially once per month until exposure hours (M as defined on Figure 4.1-1) are 2.0×10^5, thereafter, according to Figure 4.1-1 with an interval not less than 1 month nor more than 3 months. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instrument operates in an environment similar to that of Quad-Cities Units 1 and 2.
2. Functional tests, calibrations, and instrument checks are not required when these instruments are not required to be operable or are tripped.
3. This instrumentation is excepted from the functional test definition. The functional test shall consist of injecting a simulated electrical signal into the measurement channel.
4. This instrument channel is excepted from the functional test definitions and shall be calibrated using simulated electrical signals once every 3 months.
5. Functional tests shall be performed before each startup with a required frequency not to exceed once per week. Calibrations shall be performed during each startup or during controlled shutdowns with a required frequency not to exceed once per week.
6. The positioning mechanism shall be calibrated every refueling outage.
7. Logic system functional tests are performed as specified in the applicable section for these systems.
8. Functional test shall include verification of operation of the degraded voltage 5-minute timer and 7-second inherent timer.
9. Verification of the time delay setting of $3 \leq \tau \leq 10$ seconds shall be performed during each refueling outage.

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. 83
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 April 25, 1983, 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:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 83, 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: June 6, 1984

ATTACHMENT TO LICENSE AMENDMENT NO. 83

FACILITY OPERATING LICENSE NO. DPR-30

DOCKET NO. 50-265

Revise the Technical Specifications by deleting the following pages and inserting the enclosed pages.

PAGE
3.2/4.2-11
3.2/4,2-16
3.2/4.2-17

TABLE 3.2-1

INSTRUMENTATION THAT INITIATES PRIMARY CONTAINMENT ISOLATION FUNCTIONS

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4	Reactor low low water	≥84 inches above top of active fuel*	A
4	High drywell pressure[5]	≤2 psig[3]	A
16	High flow main steamline[5]	≤140% of rated steam flow	B
16	High temperature main steamline tunnel	≤200°F	B
4	High radiation main steamline tunnel[6]	≤7 x normal rated power background	B
4	Low main steam pressure[4]	≥825 psig	B
4	High flow RCIC steamline	≤300% of rated steam flow[7]	C
16	RCIC turbine area high temperature -	≤200°F	C
4	High flow HPCI steamline	≤300% of rated steam flow[7]	D
16	HPCI area high temperature	≤200°F	D

Notes

1. Whenever primary containment integrity is required, there shall be two operable or tripped systems for each function, except for low pressure main steamline which only need be available in the Run position.
2. Action. If the first column cannot be met for one of the trip systems, that trip system shall be tripped.

   If the first column cannot be met for both trip systems, the appropriate actions listed below shall be taken:

   A. Initiate an orderly shutdown and have the reactor in Cold Shutdown condition in 24 hours.

   B. Initiate an orderly load reduction and have reactor in Hot Standby within 8 hours.

   C. Close isolation valves in RCIC system.

   D. Close isolation valves in HPCI subsystem.
3. Need not be operable when primary containment integrity is not required.
4. The isolation trip signal is bypassed when the mode switch is in Refuel or Startup/Hot Shutdown.
5. This instrumentation also isolates the control room ventilation system.
6. This signal also automatically closes the mechanical vacuum pump discharge line isolation valves.
7. Includes a time delay of 3 ≤ t ≤ 10 seconds.

Top of active fuel is defined as 360" above vessel zero for all water levels used in the LOCA analysis (see Bases 3.2).

TABLE 4.2-1

MINIMUM TEST AND CALIBRATION FREQUENCY FOR CORE AND CONTAINMENT COOLING SYSTEMS INSTRUMENTATION, ROD BLOCKS, AND ISOLATIONS[7]

Instrument Channel	Instrument Functional Test[2]	Calibration[2]	Instrument Check[2]
ECCS Instrumentation			
1. Reactor low-low water level	(1)	Once/3 months	Once/day
2. Drywell high pressure	(1)	Once/3 months	None
3. Reactor low pressure	(1)	Once/3 months	None
4. Containment spray interlock			
a. 2/3 core height	(1)	Once/3 months	None
b. Containment pressure	(1)	Once/3 months	None
5. Low-pressure core cooling pump discharge	(1)	Once/3 months	None
6. Undervoltage 4-kV essential	Refueling outage	Refueling outage	None
Rod Blocks			
1. APRM downscale	(1) (3)	Once/3 months	None
2. APRM flow variable	(1) (3)	Refueling outage	None
3. IRM upscale	(5) (3)	(5) (3)	None
4. IRM downscale	(5) (3)	(5) (3)	None
5. RBM upscale	(1) (3)	Refueling outage	None
6. RBM downscale	(1) (3)	Once/3 months	None
7. SRM upscale	(5) (3)	(5) (3)	None
8. SRM detector not in startup position	(5) (3)	(6)	None
9. IRM detector not in startup position	(5)	(6)	None
10. SRM downscale	(5) (3)	(5) (3)	None
11. High water level in scram discharge volume (SDV)	Once/3 months	Not applicable	None
12. SDV high level trip bypassed	Refueling outage	Not applicable	None
Main Steamline Isolation			
1. Steam tunnel high temperature	Refueling outage	Refueling outage	None
2. Steamline high flow	(1)	Once/3 months	Once/day
3. Steamline low pressure	(1)	Once/3 months	None
4. Steamline high radiation	(1) (4)	Refueling outage	Once/day
5. Reactor low low water level	(1)	Once/3 months	Once/day
RCIC Isolation			
1. Steamline high flow	Once/3 months (8)	Once/3 months (8)	None
2. Turbine area high temperature	Refueling outage	Refueling outage	None
3. Low reactor pressure	Once/3 months	Once/3 months	None

Amendment No. 77, 77, 83

TABLE 4.2-1 (Cont'd)

Instrument Channel	Instrument Functional Test[2]	Calibration[2]	Instrument Check[2]
HPCI Isolation			
1. Steamline high flow	(1)( )	Once/3 months (8)	None
2. Steamline area high temperature	Refueling outage	Refueling outage	None
3. Low reactor pressure	(1)	Once/3 months	None
Reactor Building Ventilation System Isolation And Standby Treatment System Initiation			
1. Ventilation exhaust duct radiation monitors	(1)	Once/3 months	Once/day
2. Refueling floor radiation monitors	(1)	Once/3 months	Once/day
Steam Jet Air Ejector Off-Gas Isolation			
1. Off-gas radiation monitors	(1) (4)	Refueling outage	Once/day
Control Room Ventilation System Isolation			
1. Reactor low water level	(1)	Once/3 months	Once/day
2. Drywell high pressure	(1)	Once/3 months	None
3. Main steamline high flow	(1)	Once/3 months	Once/day
4. Ventilation exhaust duct radiation monitors	(1)	Once/3 months	Once/day

Notes

1. Initially once per month until exposure hours (M as defined on Figure 4.1-1) are 2.0×10^5; thereafter, according to Figure 4.1-1 with an interval not less than 1 month nor more than 3 months. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instrument operates in an environment similar to that of Quad-Cities Units 1 and 2.
2. Functional tests, calibrations, and instrument checks are not required when these instruments are not required to be operable or are tripped.
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4. This instrument channel is excepted from the functional test definitions and shall be calibrated using simulated electrical signals once every 3 months.
5. Functional tests shall be performed before each startup with a required frequency not to exceed once per week. Calibrations shall be performed during each startup or during controlled shutdowns with a required frequency not to exceed once per week.
6. The positioning mechanism shall be calibrated every refueling outage.
7. Logic system functional tests are performed as specified in the applicable section for these systems.
8. Functional test shall include verification of operation of the degraded voltage 5-minute timer and 7-second inherent timer.
9. Verification of the time delay setting of $3 \leq \tau \leq 10$ seconds shall be performed during each refueling outage.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 88 TO FACILITY OPERATING LICENSE NO. DPR-29

AND AMENDMENT NO. 83 TO FACILITY OPERATING LICENSE NO. DPR-30

COMMONWEALTH EDISON COMPANY
AND
IOWA-ILLINOIS GAS AND ELECTRIC COMPANY

QUAD CITIES STATION, UNITS 1 AND 2

DOCKET NOS. 50-254/265

1. INTRODUCTION

In November 1980, the staff issued NUREG-0737, "Clarification of TMI Action Plan Requirements" which included all TMI Action Plan items approved by the Commission for implementation at nuclear power reactors. NUREG-0737 identifies those items for which Technical Specifications are required. A number of items which require Technical Specifications were scheduled for implementation by December 31, 1981. The staff provided guidance on the scope of Technical Specifications for all of these items in Generic Letter 83-02. Generic Letter 83-02 was issued to all Boiling Water Reactor (BWR) licensees on January 10, 1983. In Generic Letter 83-02 the staff requested licensees to:

a. review their facility's Technical Specifications to determine if they were consistent with the guidance provided in the generic letter, and

b. submit an application for a license amendment where deviations or absence of Technical Specifications were found.

By letters dated April 20, 1983 and April 25, 1983, Commonwealth Edison (the licensee) responded to Generic Letter 83-02, and submitted a Technical Specification change request for Quad Cities Station Units 1 and 2. This evaluation covers TMI Action Plan item II.K.3.15, "HPCI and RCIC Modification."

2. DISCUSSION AND EVALUATION

TMI Action Plan Item II.K.3.15 recommends that the pipe-break-detection circuitry should be modified so that pressure spikes resulting from high-pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) system initiation will not cause inadvertent system isolation. The licensee has completed the modification recommended by this item.

In Generic Letter 83-02, the staff provided guidance on the scope of the Technical Specifications required by this item. The licensee has proposed changes in the Technical Specifications for Quad Cities Units 1 and 2. We have reviewed the proposed changes for both Units and determined that the Technical Specifications cover the surveillance requirements on the time delay relay included in HPCI and RCIC systems. The proposed changes

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delay time setting on a time delay relay. The licensee has proposed to maintain the delay time setting within the range of three to ten seconds. The maximum delay time of ten seconds proposed by licensee is within the acceptable limit for delay time considered in the design basis for the HPCI and RCIC isolation system. We find the proposed changes to be acceptable.

3. ENVIRONMENTAL CONSIDERATIONS

We have determined that these 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 these 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 impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

4. CONCLUSION

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.

Principal Contributors: Chandu Patel and Roby Bevan

Dated: June 6, 1984