

February 13, 1991

Docket Nos. 50-254
and 50-265

Mr. Thomas J. Kovach
Nuclear Licensing Manager
Commonwealth Edison Company-Suite 300
OPUS West III
1400 OPUS Place
Downers Grove, Illinois 60515

DISTRIBUTION:

Docket Files	BBoger
PDIII-2 r/f	JZwolinski
RBarrett	LOlshan
CMoore	OGC-WF1
DHagan	EJordan
GHill(8)	WJones
JCalvo	ACRS(10)
GPA/PA	OC/LFMB
PDIII-2 Gray	NRC & Local PDRs

Dear Mr. Kovach:

SUBJECT: ISSUANCE OF AMENDMENT (TAC NOS. 75374 AND 75375)

The Commission has issued the enclosed Amendment No. 128 to Facility Operating License No. DPR-29 and Amendment No. 123 to Facility Operating License No. DPR-30 for the Quad Cities Nuclear Power Station, Units 1 and 2, respectively. The amendments are in response to your application dated November 30, 1989, as supplemented on October 2, 1990.

The amendments change the expiration date for the Operating Licenses from February 15, 2007 to December 14, 2012. This extends the operating life of the plants to 40 full years from the date of issuance of the Operating Licenses.

A copy of the related Safety Evaluation is also enclosed. The enclosed Notice of Issuance has been sent to the Office of the Federal Register for publication.

Sincerely,

Original Signed By:

Leonard N. Olshan, Project Manager
Project Directorate III-2
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 128 to License No. DPR-29
2. Amendment No. 123 to License No. DPR-30
3. Safety Evaluation
4. Notice

cc w/enclosures:
See next page

9102210078	910213
PDR	ADOCK 05000254
P	PDR

OFFICIAL RECORD COPY
DOCUMENT NAME: [AMENDMENT 75374/75]

Office: LA:PDIII-2
Surname: CMoore
Date: 1/29/91

PM:PDIII-2
LOlshan:ta
1/24/91

PD:PDIII-2
RBarrett
2/13/91

OGC-WF1
2/13/91

LOlshan
1/11
CB

200137

CP/ut

Mr. Thomas J. Kovach
Commonwealth Edison Company

Quad Cities Nuclear Power Station
Unit Nos. 1 and 2

cc:

Mr. Stephen E. Shelton
Vice President
Iowa-Illinois Gas and
Electric Company
P. O. Box 4350
Davenport, Iowa 52808

Michael I. Miller, Esq.
Sidley and Austin
One First National Plaza
Chicago, Illinois 60690

Mr. Richard Bax
Station Manager
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
1504 3rd Avenue
Rock Island County Office Bldg.
Rock Island, Illinois 61201

Illinois Department of Nuclear Safety
Office of Nuclear Facility Safety
1035 Outer Park Drive
Springfield, Illinois 62704

Regional Administrator, Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road, Bldg. #4
Glen Ellyn, Illinois 60137

Robert Neumann
Office of Public Counsel
State Illinois Center
100 W. Randolph
Suite 11-300
Chicago, Illinois 60601



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. 128
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 November 30, 1989, as supplemented on October 2, 1990, 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.

9102210117 910213
PDR ADOCK 05000254
P PDR

2. Accordingly, the expiration statement on page 6 of Facility Operating License No. DPR-29 is hereby amended to read as follows:*
4. This license is effective as of the date of issuance, and shall expire at midnight, December 14, 2012.
3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

J. M. Dehan
for

Richard J. Barrett, Director
Project Directorate III-2
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Page 6 of license

Date of Issuance: February 13, 1991

*Page 6 is attached, for convenience, for the composite license to reflect this change.

3.L Post-Accident Sampling

A program will be established, implemented, and maintained which will ensure the capability to obtain and analyze reactor coolant, radioactive iodines and particulates in plant chimney effluents, and containment atmosphere samples under accident conditions. The program shall include the following:

1. Training of personnel,
 2. Procedures for sampling and analysis, and
 3. Provisions for maintenance of sampling and analysis equipment.
4. This license is effective as of the date of issuance, and shall expire at midnight, December 14, 2012.

FOR THE ATOMIC ENERGY COMMISSION

Original signed by:

A. Giambusso, Deputy Director
for Reactor Projects
Directorate of Licensing

Enclosures: Appendices A and B--
Technical Specifications



2064

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. 123
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 November 30, 1989, as supplemented on October 2, 1990, 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 expiration statement on page 7 of Facility Operating License No. DPR-30 is hereby amended to read as follows:*
4. This license is effective as of the date of issuance, and shall expire at midnight, December 14, 2012.
3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



For
Richard J. Barrett, Director
Project Directorate III-2
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Page 7 of license

Date of Issuance: February 13, 1991

*Page 7 is attached, for convenience, for the composite license to reflect this change.

3.J Deleted

3.K Post-Accident Sampling [7/31/86 correction to Amd. 90]

A program will be established, implemented, and maintained which will ensure the capability to obtain and analyze reactor coolant, radioactive iodines and particulates in plant chimney effluents, and containment atmosphere samples under accident conditions. The program shall include the following:

1. Training of personnel,
2. Procedures for sampling and analysis, and
3. Provisions for maintenance of sampling and analysis equipment.
4. This license is effective as of the date of issuance, and shall expire at midnight, December 14, 2012.

FOR THE ATOMIC ENERGY COMMISSION

Original signed by:

A. Giambusso, Deputy Director
for Reactor Projects
Directorate of Licensing

Enclosures: Appendices A and B -- Technical Specifications

Date of Issuance: December 14, 1972



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

7/15/89

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 128 TO FACILITY OPERATING LICENSE NO. DPR-29
AND AMENDMENT NO. 123 TO FACILITY OPERATING LICENSE NO. DPR-30

COMMONWEALTH EDISON COMPANY

AND

IOWA-ILLINOIS GAS AND ELECTRIC COMPANY

QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2

DOCKET NOS. 50-254 AND 50-265

1.0 INTRODUCTION

By application dated November 30, 1989, which was supplemented on October 2, 1990, Commonwealth Edison Company (CECo), the licensee, requested an amendment to Facility Operating License Nos. DPR-29 and DPR-30 for the Quad Cities Nuclear Power Station, Units 1 and 2. The proposed amendment would change the expiration date of the licenses from February 15, 2007 to December 14, 2012.

2.0 DISCUSSION

Section 103.c of the Atomic Energy Act of 1954 provides that the license is to be issued for a specified period not exceeding 40 years. Title 10 of the Code of Federal Regulations, Section 50.51, specifies that each license will be issued for a fixed period of time, to be specified in the license, not to exceed 40 years from the date of issuance. 10 CFR 50.57 allows the issuance of an operating license pursuant to 10 CFR 50.56 for the period specified in 10 CFR 50.51 after the construction of the facility has been substantially completed, in conformity with the construction permit and when other provisions specified in 10 CFR 50.57 are met. The current term of the license for the Quad Cities Nuclear Power Station, Units 1 and 2, is 40 years commencing with the issuance of the construction permit. Accounting for the time that was required for plant construction, this represents an effective operating term of only approximately 34 years and 3 months. Consistent with Section 103.c of the Atomic Energy Act of 1954 and 10 CFR 50.51, 50.56 and 50.57 of the Commission's regulations, the licensee, by its application dated November 30, 1989, as supplemented October 2, 1990, seeks an extension of the operating license term for the Quad Cities Nuclear Power Station, Units 1 and 2, such that the fixed period of the licenses would be 40 years from the date of issuance of the operating licenses.

9102210134 910213
PDR ADOCK 05000254
P PDR

The impact of the additional radiation exposure to the facility operating staff and the impact on the general population in the vicinity of the Quad Cities Nuclear Power Station are addressed in the NRC's staff's Environmental Assessment dated January 10, 1991.

3.0 EVALUATION

The licensee's request for extension of the operating license is based on the fact that the 40-year service life was considered during the design and construction of the plant. This does not mean that some components will not wear out during the plant lifetime. However, the reactor coolant system components and support systems are analyzed for the integrated effects of radiation damage and cyclic loading (with added margin) which could reasonably be expected to occur in a 40-year lifetime. Surveillance and inspection programs have been implemented in accordance with the ASME Code for Inservice Inspection and Inservice Testing of Pumps and Valves and Technical Specification requirements to provide assurance that any unexpected degradation in plant equipment will be identified and corrected. The specified provisions and requirements for ASME Code testing are set forth in 10 CFR 50.55a.

The design of the reactor vessel and its internals considered the effects of 40 years of operation at full power and a comprehensive vessel material surveillance is maintained in accordance with 10 CFR Part 50, Appendix H, which ensures the fracture toughness requirements of Appendix G to 10 CFR Part 50 are met. As stated in the Final Safety Analysis Report (FSAR), reactor vessel surveillance capsules are periodically removed for Charpy V-notch and tensile strength tests.

As discussed above, the useful life of Quad Cities Units 1 and 2 was intended to be 40 years. The thermal and loading cycles listed in the original FSAR were considered during the design process. The licensee monitors the number of cycles experienced. As part of the submittal, the licensee submitted the vessel fatigue evaluation which indicates that Units 1 and 2 can operate for their full 40-year design life without exceeding the design number of vessel cycles.

Inspections conducted at several boiling water reactors (BWRs) indicated intergranular stress corrosion cracking (IGSCC) has occurred in large diameter stainless steel pipe. The NRC staff considered this a generic problem and, as a result, the Commission issued Generic Letter (GL) 84-11, "Inspection of BWR Stainless Steel Piping" requiring a reinspection program at all BWRs. The reinspection involved welds in stainless steel pipes greater than four inches in diameter, in systems that are part of or connected to the reactor coolant pressure boundary, out to the second isolation valve. If IGSCC was discovered, then repair, analysis, and additional surveillance were required to ensure the continued integrity of the affected pipe.

Generic Letter 88-01, "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping," issued on January 25, 1988, superseded GL 84-11 and included a copy of NUREG-0313, Revision 2, "Technical Report on Material Selection and Process Guidelines for BWR Coolant Pressure Boundary Piping." NUREG-0313, Revision 2, describes methods acceptable to the staff to control the susceptibility of BWR ASME Boiler and Pressure Vessel Code Class 1, 2, and 3 pressure boundary piping and safe ends to intergranular stress corrosion cracking. The revision describes the technical bases for the staff's position on the following items: materials of construction; processes to minimize or control IGSCC; water chemistry; reinforcement by weld overlay; replacement of piping; stress improvements; clamping devices; crack characterization and repair criteria; inspection methods, schedules and personnel; and limits on the number of cracked weldments in piping. For piping that does not conform to the staff positions, varying degrees of inservice inspection are required to ensure structural integrity of the pressure boundary piping system, pursuant to 10 CFR 50.55a(g)(6)(ii).

By letter dated July 29, 1988, and supplemented by responses dated June 9, 1989, July 21, 1989, November 7, 1989, and December 18, 1989, Commonwealth Edison Company responded to GL 88-01, describing the licensee's plans and program for implementation of the NRC staff's positions specified in the GL. By letter dated August 21, 1990, the staff issued its Safety Evaluation (SE) of the licensee's responses. The SE found the licensee's responses acceptable with several exceptions. In a letter dated October 19, 1990, the licensee presented its plans for addressing the exceptions. The licensee's October 19, 1990 letter is presently being reviewed by the staff.

Aging analyses have been performed for all safety-related electrical equipment in accordance with 10 CFR 50.49, "Environmental Qualification of Electrical Equipment Important to Safety for Nuclear Power Plants," identifying qualified lifetimes for this equipment. These lifetimes have been incorporated into the plant equipment maintenance and replacement practices to ensure that all safety-related electrical equipment remains qualified and available to perform its safety-related function regardless of the overall age of the plant.

The staff's SE for environmental qualification of safety-related electrical equipment was issued in a letter dated January 11, 1985. A subsequent audit of the program was conducted June 8 through July 28, 1987, by Region III; the results of which are documented in Inspection Report 50-254/87011 and 50-265/87011 dated September 1, 1987. While some deficiencies were noted, which the licensee has subsequently corrected, the staff has concluded and the inspection team verified that the licensee has implemented an environmental qualification program meeting the requirements of 10 CFR 50.49.

The staff published its original SE for Quad Cities on August 25, 1971. Changes have been made to the plant design since the original plant construction was completed, such as spent fuel pool modification, major changes for fire protection in response to Appendix R, many TMI Task Action Plan modifications and various other less major design changes. Each of these changes involving a safety-related component has been reviewed and approved by the staff with the details being documented in the staff's related SE. Further, as required by 10 CFR 50.71(e), these changes and their effect on accident

analyses, if any, are routinely updated in the FSAR. Our review of the original SE and the FSAR for the facility has not identified any concerns associated with the approval of the proposed amendment to extend the expiration date of the license that are not already addressed by licensee commitments, operating procedures, and license requirements.

The Quad Cities site includes 784 acres, with an additional adjacent undeveloped 1614 acres for future use. Quad Cities Station is located in a relatively low population area. The low population zone (LPZ) is approximately the area enclosed by an 8000 meter (5-mile) radius from the plant. The population surrounding the site has not grown at the rate projected in the FES. Current projections of population within the 50-mile radius of the station to the year 2010 are lower than that projected in the FES (807,087 compared to 841,632 projected in the FES). Further details of the staff's review are contained in the associated Environmental Assessment dated January 10, 1991.

Based on the above, it is concluded that the extension of the operating license for the Quad Cities Nuclear Power Station, Units 1 and 2, to allow a 40-year service life is consistent with the safety analysis in that all issues associated with plant aging and population changes have already been addressed. Accordingly, the staff finds the proposed extension of the expiration date of the Facility Operating Licenses for the Quad Cities Nuclear Power Station, Units 1 and 2, to be acceptable.

4.0 SUMMARY OF FINDINGS

The staff concluded in the Environmental Assessment that the annual radiological effects during the additional years of operation that would be authorized by the proposed license amendments are not more than previously estimated in the Final Environmental Statement and are acceptable.

The staff also concludes, from its considerations of the design, operation, testing and monitoring of the mechanical equipment, structures and the reactor vessel, that an extension of the operating licenses for Quad Cities 1 and 2 to a 40-year service life is consistent with the FSAR, SERs and submittals made by the licensee, and that there is reasonable assurance that the unit will be able to continue to operate safely for the additional period authorized by this amendment. The plant is operated in compliance with the Commission's regulations, and issues associated with the plant degradation have been adequately addressed.

5.0 ENVIRONMENTAL CONSIDERATIONS

Pursuant to 10 CFR 51.21, 51.32 and 51.35, an Environmental Assessment and finding of no significant impact has been prepared and published in the Federal Register on January 10, 1991 (56 FR 1031). Accordingly, based on the Environmental Assessment, the Commission has determined that the issuance of this amendment will not have a significant effect on the quality of the human environment.

6.0 CONCLUSION

The staff has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Leonard N. Olshan, NRR/PDIII-2

Dated: February 13, 1991

UNITED STATES NUCLEAR REGULATORY COMMISSION

COMMONWEALTH EDISON COMPANY

DOCKET NOS. 50-254 AND 50-265

NOTICE OF ISSUANCE OF AMENDMENT TO

FACILITY OPERATING LICENSE

The U.S. Nuclear Regulatory Commission (Commission) has issued Amendment No. 128 to Facility Operating License No. DPR-29 and Amendment No. 123 to Facility Operating License No. DPR-30 issued to the Commonwealth Edison Company (CECo, or licensee), which revised Facility Operating Licenses for operation of the Quad Cities Nuclear Power Station, Units 1 and 2, located in Rock Island County, Illinois. The amendments are effective as of the date of their issuance.

The amendments change the expiration date for the Quad Cities Nuclear Power Station, Units 1 and 2, Facility Operating Licenses from February 15, 2007 to December 14, 2012. This extends the operating life of the plants to 40 full years from the date of issuance of the operating licenses.

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 regulation in 10 CFR Chapter I, which are set forth in the license amendment.

Notice of Consideration of Issuance of Amendment to Facility Operating License and Opportunity for Hearing in connection with this action was published in the FEDERAL REGISTER on June 27, 1990 (55 FR 26307). No request for a hearing or petition for leave to intervene was filed following this notice.

The Commission has prepared an Environmental Assessment and Finding of No Significant Impact related to the action and has concluded that an environmental impact statement is not warranted because there will be no environmental impact attributable to the action beyond that which has been predicted and described in the Commission's Final Environmental Statement for the facility dated September 1972.

For further details with respect to the action see (1) the application for amendment dated November 30, 1989, as supplemented on October 2, 1990, (2) Amendment No. 128 to License No. DPR-29, (3) Amendment No. 123 to License No. DPR-30, and (4) Environmental Assessment and Finding of No Significant Impact. All of these items are available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, N.W., Washington, D.C. and at the Dixon Public Library, 221 Hennepin Avenue, Dixon, Illinois 61021. 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 Reactor Projects III, IV, and V.

Dated at Rockville, Maryland this 13th day of February, 1991.

FOR THE NUCLEAR REGULATORY COMMISSION



Leonard N. Olshan, Project Manager
Project Directorate III-2
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation