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Docket No. 50-265

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Commonwealth Edison Company
 ATTN: Mr. C. Reed
 Assistant Vice President
 P. O. Box 767
 Chicago, Illinois 60690

Gentlemen:

The Commission has issued the enclosed Amendment No. 34 to Facility Operating License No. DPR-30 for the Quad Cities Station Unit No. 2. The amendment consists of changes to the Technical Specifications in response to your application dated April 18, 1978.

The amendment extends the allowed period of reactor operation with Loop 2A of the Containment Cooling Mode of the RHR System inoperable for 7 days beyond April 24, 1978, unless such loop is sooner made operable, provided that during the time the 7 day limit is exceeded a visual inspection is performed daily to assure that proper valve alignment and system integrity is maintained in the "B" RHR loop.

Copies of the Safety Evaluation and Notice of Issuance are also enclosed.

Sincerely,

George Lear, Chief
 Operating Reactors Branch #3
 Division of Operating Reactors

Enclosures:

1. Amendment No. 34 to DPR-30
2. Safety Evaluation
3. Notice

cc w/enclosures:
 See next page

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cc w/enclosures:

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Illinois Department of Public Health
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Mr. Marcel DeJaegher, Chairman
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Chief, Energy Systems Analyses
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

COMMONWEALTH EDISON COMPANY
IOWA-ILLINOIS AND GAS AND ELECTRIC COMPANY
DOCKET NO. 50-265
QUAD CITIES STATION UNIT NO. 2
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 34
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 18, 1978, 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.

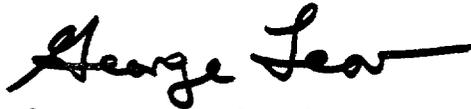
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of facility Operating License No. DPR-30 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 34, 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



George Lear, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Attachment:
Changes to the
Technical Specifications

Date of Issuance: April 21, 1978

ATTACHMENT TO LICENSE AMENDMENT NO. 34

FACILITY OPERATING LICENSE NO. DPR-30

DOCKET NO. 50-265

Delete existing page 3.5/4.5-4 and insert the attached page 3.5/4.5-4 and 3.5/4.5-4a. The changed area on the revised page is indicated by a marginal line.

**QUAD-CITIES
DPR-30**

3. From and after the date that one loop of the containment cooling mode of the RHR system is made or found to be inoperable for any reason, continued reactor operation is permissible only during the succeeding 7 days unless such subsystem is sooner made operable, provided that all active components of the other loop of the containment cooling mode of the RHR system, both core spray subsystems, and both diesel generators required for operation of such components if no external source of power were available, shall be operable.

During the time period from April 17, 1978 through April 30, 1978 while the 2A Containment Cooling Loop of the RHR System is made inoperable for heat exchanger repair, continued reactor operation is permissible beyond the above 7-day limitation, unless such loop is sooner made operable, provided that during the time the 7-day limit is exceeded, a visual inspection is performed daily to assure that proper valve alignment and system integrity is maintained in the "B" RHR loop.

4. Containment cooling spray loops are required to be operable when the reactor water temperature is greater than 212° F and prior to reactor startup from a cold condition. Continued reactor operation is permitted provided that a maximum of one drywell spray loop may be inoperable for 30 days when the reactor water temperature is greater than 212° F.
5. If the requirements of 3.5.B cannot be met, an orderly shutdown shall be initiated, and the reactor shall be in a cold shutdown condition within 24 hours.

3. When one loop of the containment cooling mode of the RHR system becomes inoperable, the operable loop and the diesel generators required for operation of such components shall be demonstrated to be operable immediately, and the operable loop of the containment cooling mode of the RHR system shall be demonstrated to be operable daily thereafter.

4. During each 5-year period, an air test shall be performed on the drywell spray headers and nozzles and a water spray test performed on the torus spray header and nozzles.

QUAD CITIES
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C. HPCI Subsystem

1. The HPCI subsystem shall be operable whenever the reactor pressure is greater than 90 psig, irradiated fuel is in the reactor vessel, and prior to reactor startup from a cold condition.
2. From and after the date that the HPCI subsystem is made or found to be inoperable for any reason, continued reactor operation is permissible only during the succeeding 7 days unless such subsystem is sooner made operable.

C. HPCI Subsystem

Surveillance of HPCI subsystem shall be performed as follows:

1. HPCI subsystem testing shall be as specified in Specifications 4.5.A.1.a, b, c, and d, except that the HPCI pump shall deliver at least 5000 gpm against a system head corresponding to a reactor vessel pressure of 1150 psig to 150 psig, and a logic system functional test shall be performed during each refueling outage.
2. When it is determined that the HPCI subsystem is inoperable, the LPCI mode of the RHR system, both core spray subsystems, the automatic pressure relief subsystem, and the RCIC system shall be demonstrated to be

3.5/4.5-4a



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 34 TO FACILITY OPERATING LICENSE NO. DPR-30
COMMONWEALTH EDISON COMPANY
IOWA-ILLINOIS AND GAS AND ELECTRIC COMPANY
QUAD CITIES STATION UNIT NO. 2
DOCKET NO. 50-265

Introduction

By letter dated April 18, 1978, the Commonwealth Edison Company (CECo) requested that the maximum allowable time for inoperability of one loop of the Containment Cooling Mode of the Residual Heat Removal (RHR) System be increased from 7 to 14 days for the period April 17 through April 30, 1978. CECo estimates that several days additional time beyond the 7 days specified in the Technical Specifications will be necessary to complete needed repairs on the RHR 2A Heat Exchanger.

Discussion

A minor leak has developed in the 2A RHR Heat Exchanger. The leak rate has been estimated to be less than 1/2 gal/hr. The heat exchanger has been operable and available for use since startup following the Cycle 3 refueling outage in March. The work involved with opening the heat exchanger, performing leak tests and finding the leak, repairing the leak, and re-assembling the heat exchanger is a lengthy job which involves working in a relatively high exposure and airborne contaminated location. A new quarter for radiation exposure has just begun, and the station has deemed it both necessary and advantageous to perform the repair work now.

The work on the heat exchanger is scheduled to commence during the morning of April 17, 1978. It has been determined that chances are likely for the work to extend past the 7-day inoperability LCO for a containment cooling loop, as per Technical Specification 3.5.B.3. The work associated with the heat exchanger is to be performed by a

contractor on a 24-hour basis, under the auspices of Commonwealth Edison Maintenance Foreman. The estimated length of time to perform the job is from 6 to 10 days, due to the area exposure levels, airborne activity, scope of mechanical work involved, and the uncertainty of the leak location. Another factor in this job is the small magnitude of the leak, so existing leak testing methods may not be adequate to detect the leak. New leak testing methods may need to be developed to accomplish this job.

Evaluation

We have evaluated the CECO submittal and have determined that for this specific occasion, we can grant an authorization to CECO for operation of the Unit for an additional period of 7 days with the "A" loop RHR heat exchanger out of service. Our bases for that decision are given below.

ECCS-LOCA Considerations

LPCI Mode of RHRS

Neither the "A" nor the "B" loops' low pressure coolant-injection (LPCI) mode is affected by a maintenance outage of the "A" loop RHR heat exchanger. During LPCI injection, the RHR heat exchangers are normally bypassed (i.e., valved out of the system), which is precisely the same condition that will be present during the maintenance operation on the "A" loops' heat exchanger. The "B" loop LPCI injection capability is, of course, completely unaffected and, if ECCS is activated and upon completion of any "injection" mode, the loop "B" heat exchanger is available and could be valved back into the system, as designed, for containment cooling.

Containment Cooling Mode of RHRS

Unavailability of the "A" loop heat exchanger will make that loop unavailable for containment cooling. However, the "B" loop will be fully available for containment cooling. This is considered acceptable for the reasons given below.

The containment sprays are used to mitigate the effects of steam bypass of the suppression pool and to assist in the removal of energy from the containment atmosphere. However, leakage tests are conducted to assure that potential steam bypass leakage will be within acceptable values, and no credit for the containment sprays has been taken in the containment response analyses. Further, the containment sprays are not relied upon for fission product removal following a postulated loss-of-coolant accident.

Cold Shutdown

The "A" loop will be unavailable for the purpose of obtaining and/or maintaining a cold shutdown condition. However, the "B" loop will be fully available and capable for that purpose.

CECo normally utilizes only one of the two loops to obtain cold shutdown. Unavailability of a backup system for the one system required is not a significant hazard during the additional 7 day maintenance period requested for reasons given below.

Failure of the backup "B" loop is highly unlikely. Active failures are unlikely to disable the "B" loop since only one of the two redundant RHR pumps in the "B" loop and one of the two redundant cooling water pumps supplying the "B" loop RHR heat exchanger cooling water are needed to obtain cold shutdown, and two alternate injection paths are available for "B" loop to the reactor (i.e., most valve failures could not disable the system). Passive failures that would completely disable the "B" loop are highly unlikely (i.e., the heat exchanger is most likely to leak, not completely fail, and it would still be capable of performing its function). In addition, obtaining a cold shutdown condition is not usually required on a "emergency" basis, i.e., in the minimum possible time. Therefore, since the "A" loop RHR heat exchanger could be re-assembled within 2 days, adequate redundancy for this purpose is available in the highly unlikely event "B" loop shutdown cooling capability failed completely.

Surveillance ("B" Loop Operability)

CECo has proposed to test operability of the "B" loop immediately prior to beginning maintenance on "A" loop, i.e., while "A" loop is still available to perform all of its design functions (even though leaking slightly). We agree that this test should be performed.

CECo has proposed to monitor the "B" loop heat exchanger discharge pressure, and to monitor the "B" loop RHR heat exchanger service water radiation level (both to insure non-leakage and operability of that heat exchanger). We agree that this monitoring should be conducted.

However, CECO has also proposed to test all components necessary for operation of the "B" RHR loop daily for operability. As described above, we believe the "B" RHR loop to be a highly reliable system with a high degree of inherent redundancy for its potentially needed functions, and therefore highly unlikely to fail during the additional 7 day outage requested. On the other hand, daily testing of the "B" system introduces certain risks of disabling the system: (1) some component might be broken during a test (this might not be detected until the next test one day later), (2) some valve might be inadvertently left in a test position (which could degrade or disable the system if called upon to function), and (3) even though the system automatically returns to an operate (LPCI injection) configuration from the test configuration if a LOCA signal is received during testing, there is an increase in risk of inoperability since several active failures are possible in the "test override" sequence which might preclude the valves from returning to the proper position. With no daily testing, the valves would merely have to passively remain in their proper position, which is much more reliable than the "test override" sequence.

We therefore believe the daily testing of this highly reliable and largely redundant "B" RHR system is undesirable and more likely to increase the risk of system inoperability during the additional 7 day period than it is to decrease that risk. However, a visual inspection should be performed daily to assure that proper valve alignment and integrity is maintained in the "B" RHR loop. We have discussed this matter with the licensee and he has agreed to this modification.

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 §1.5(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.

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

Dated: April 21, 1978

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-265COMMONWEALTH EDISON COMPANYANDIOWA-ILLINOIS GAS AND ELECTRIC COMPANYNOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The Nuclear Regulatory Commission (the Commission) has issued Amendment No. 34 to Facility Operating License No. DPR-30, 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 Station Unit 2 (the facility) located in Rock Island County, Illinois. The amendment is effective as of the date of issuance.

This amendment extends the allowable period of reactor operation with Loop 2A of the Containment Cooling Mode of the RHR System inoperable for 7 days beyond April 24, 1978 provided that a visual inspection is performed daily to assure that proper valve alignment and system integrity is maintained in the "B" RHR loop.

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 regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

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

For further details with respect to this action, see (1) the application for amendment dated April 18, 1978, (2) Amendment No. 34 to License No. DPR-30, and (3) the Commission's 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 61265. 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 Operating Reactors.

Dated at Bethesda, Maryland, this 21st day of April 1978.

FOR THE NUCLEAR REGULATORY COMMISSION



George Lear, Chief
Operating Reactors Branch #3
Division of Operating Reactors