

August 11, 1986

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:

SUBJECT: RHR VAULT ROOM AND RHR SERVICE WATER TECHNICAL SPECIFICATION
CHANGES

Re: Quad Cities Nuclear Power Station, Units 1 and 2
(TAC Nos. 57878/9)

The Commission has issued the enclosed Amendment Nos. 95 and 91 to Facility Operating License Nos. DPR-29 and DPR-30 for the Quad Cities Nuclear Power Station, Units 1 and 2. The amendments are in response to your application dated March 22, 1985.

These amendments incorporate surveillance requirements for the residual heat removal (RHR) vault flood protection systems which were recently installed for the RHR service water sump pumps in the RHR vault rooms.

A copy of our related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly Federal Register notices.

Sincerely,

ORIGINAL SIGNED BY

John A. Zwolinski, Director
BWR Project Directorate #1
Division of BWR Licensing

Enclosures:

1. Amendment No. 95 to License No. DPR-29
2. Amendment No. 91 to License No. DPR-30
3. Safety Evaluation

cc w/enclosures:
See next page

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August 1986

Mr. Dennis L. Farrar
Commonwealth Edison Company

Quad Cities Nuclear Power Station
Units 1 and 2

cc:

Mr. B. C. O'Brien
President
Iowa-Illinois Gas and
Electric Company
206 East Second Avenue
Davenport, Iowa 52801

Mr. Michael I. Miller
Isham, Lincoln & Beale
Three First National Plaza
Suite 5200
Chicago, Illinois 60602

Mr. Nick Kalivianakis
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

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

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



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.95
License No. DPR-29

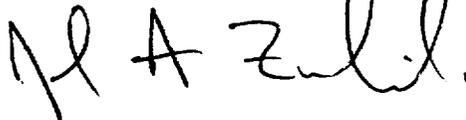
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Commonwealth Edison Company (the licensee) dated March 22, 1985, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules 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.R. of Facility Operating License No. DPR-29 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 95, 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



John A. Zwolinski, Director
BWR Project Directorate #1
Division of BWR Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 11, 1986

ATTACHMENT TO LICENSE AMENDMENT NO.95

FACILITY OPERATING LICENSE NO. DPR-29

DOCKET NO. 50-254

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change.

REMOVE

3.5/4.5-8
3.5/4.5-9
--
3.5/4.5-16a
3.5/4.5-17
3.5/4.5-18
3.5/4.5-19

INSERT

3.5/4.5-8
3.4/4.5-9
*3.5/4.5-9a
3.5/4.5-16a
3.5/4.5-17
3.5/4.5-18
*3.5/4.5-19

*Pagination change only

2. The discharge pipe pressure for the systems in Specification 3.5.G.1 shall be maintained at greater than 40 psig and less than 90 psig. If pressure in any of these systems is less than 40 psig or greater than 90 psig, this condition shall be alarmed in the control room and immediate corrective action taken. If the discharge pipe pressure is not within these limits in 12 hours after the occurrence, an orderly shutdown shall be initiated, and the reactor shall be in a cold shutdown condition within 24 hours after initiation.

H. Condensate Pump Room Flood Protection

1. The systems installed to prevent or mitigate the consequences of flooding of the condensate pump room shall be operable prior to startup of the reactor.
2. The condenser pit water level switches shall trip the condenser circulating water pumps and alarm in the control room if water level in the condenser pit exceeds a level of 5 feet above the pit floor. If a failure occurs in one of these trip and alarm circuits, the failed circuit shall be immediately placed in a trip condition and reactor operation shall be permissible for the following 7 days unless the circuit is sooner made operable.

2. Following any period where the LPCI mode of the RHR or core spray ECCS have been out of service and drained for maintenance, the discharge piping of the inoperable system shall be vented from the high point prior to the return of the system to service.
3. Whenever the HPCI or RCIC system is lined up to take suction from the torus, the discharge piping of the HPCI and RCIC shall be vented from the high point of the system and water flow observed on a monthly basis.
4. The pressure switches which monitor the discharge lines and the discharge of the fill system pump to ensure that they are full shall be functionally tested every month and calibrated every 3 months. The pressure switches shall be set to alarm at a decreasing pressure of ≥ 40 psig and an increasing pressure of ≤ 90 psig.

H. Condensate Pump Room Flood Protection

1. The following surveillance requirements shall be observed to assure that the condensate pump room flood protection is operable.
 - a. The piping and electrical penetrations, bulkhead doors, and submarine doors for the vaults containing the RHR service water pumps and diesel generator cooling pumps shall be checked during each operating cycle by pressurizing to 15 ± 2 psig and checking for leaks using a soap bubble solution. The criteria for acceptance shall be no visible leakage through the soap bubble solution.

3. If Specification 3.5.H.1 and 2 cannot be met, reactor startup shall not commence or if operating an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition within 24 hours.

b. During each operating cycle, the following flood protection level switches shall be functionally tested to give the following control room alarms:

1) turbine building equipment drain sump high level

2) vault high level

c. The RHR service water vault sump pump discharge check valves outside the vault shall be tested for integrity, using clean demineralized water, at least once per operating cycle.

d. The condenser pit 5-foot trip circuits for each channel shall be checked once a month. A logic system functional test shall be performed during each refueling outage.

I. Average Planar LHGR

During steady-state power operation, the average linear heat generation rate (APLHGR) of all the rods in any fuel assembly, as a function of average planar exposure, at any axial location, shall not exceed the maximum average planar LHGR shown in Figure 3.5-1. If at any time during operation it is determined by normal surveillance that the limiting value for APLHGR is being exceeded, action shall be initiated within 15 minutes to restore operation to within the prescribed limits. If the APLHGR is not returned in within the prescribed limits within 2 hours, the reactor shall be brought to the cold shutdown condition within 36 hours. Surveillance and corresponding action shall continue until reactor operation is within the prescribed limits.

I. Average Planar LHGR

Daily during steady-state operation above 25% rated thermal power, the average planar LHGR shall be determined.

J. Local LHGR

Daily during steady-state power operation above 25% of rated thermal power, the local LHGR shall be determined.

J. Local LHGR

During steady-state power operation, the linear heat generation rate (LHGR) of any rod in any fuel assembly at any axial location shall not exceed the maximum allowable LHGR. If at any time during operation it is determined by normal surveillance that the limiting value for LHGR is being exceeded, action shall be initiated within 15 minutes to restore operation to within the prescribed limits. If the LHGR is not returned to

3.5/4.5-9a

QUAD-CITIES

DPR-29

The watertight bulkhead and submarine doors and the penetration seals for pipes and cables penetrating the vault walls and ceilings have been designed to withstand the maximum flood conditions. To assure that their installation is adequate for maximum flood conditions, a method of testing each seal has been devised.

In order to test an electrical penetration or pipe seal, compressed air is supplied to a test connection and the space between the fittings is pressurized to approximately 15 psig. The outer faces are then tested for leaks using a soap bubble solution.

QUAD-CITIES

In order to test the submarine doors, a test frame must be installed around each door. The frame is then pumped to a pressure of approximately 15 psig and held to test for leaktightness. The watertight bulkhead doors are tested by pressurizing the volume between the double-gasket seals to approximately 15 psig. The gasket seal area is inspected using a soap bubble solution. Each RHR service water vault contains a sump, which will collect any floor or equipment leakage inside the vault. A sump pump will automatically start on high level in the sump, and will pump the water out of the vault, via 2 discharge check valves outside the vault to the service water discharge pipe. A composite sampler is located on the sump discharge line. A radiation monitor is also located on the service water discharge. The sump discharge water is not expected to be contaminated, and any in-leakage to the vault is prevented by 2 check valves. Surveillance of these check valves is performed each operating cycle to assure their integrity. The previously installed bed-plate drains to the turbine building equipment drain sump have been capped off permanently.

A level switch set at a water level of 6 inches is located inside each vault. Upon actuation, the switch alarms in the control room to notify the operator of trouble in the vault. The operator will also be aware of problems in the vaults/condensate pump room if the high-level alarm on the equipment drain sump is not terminated in a reasonable amount of time.

A system of level switches has been installed in the condenser pit to indicate and control flooding of the condenser area. The following switches are installed:

Level	Function
a. 1 foot (one switch)	alarm, low water level
b. 3 feet (one switch)	alarm, high water level
c. 5 feet (two redundant switch pairs)	alarm and circulating water pump trip

Level (a) indicates water in the condenser pit from either the hotwell or the circulating water system. Level (b) is above the hotwell capacity and indicates a probable circulating water failure.

QUAD CITIES
DPR-29

Should the switches at levels (a) and (b) fail or the operator fail to trip the circulating water pumps on alarm at level (b), the actuation of either level switch pair at level (c) shall trip the circulating water pumps automatically and alarm in the control room. These redundant level switch pairs at level (c) are designed and installed to IEEE 279, "Criteria for Nuclear Power Plant Protection Systems." As the circulating water pumps are tripped, either manually or automatically at level (c) of 5 feet, the maximum water level reached in the condenser pit due to pumping will be at elevation 568 feet 6 inches elevation (10 feet above condenser pit floor elevation 558 feet 6 inches; 5 feet plus an additional 5 feet attributed to pump coastdown).

In order to prevent the RHR service water pump motors and diesel-generator cooling water pump motors from overheating a vault cooler is supplied for each pump. Each vault cooler is designed to maintain the vault at a maximum of 105°F temperature during operation of its respective pump. For example, if diesel generator cooling water pump 1/2-3903 starts, its cooler also starts and maintains the vault at 105°F by removing heat supplied to the vault by the motor of pump 1/2-3903. If, at the same time that pump 1/2-3903 is in operation, RHR service water pump 1C starts, its cooler will also start and compensate for the added heat supplied to the vault by the 1C pump motor keeping the vault at 105°F.

Each of the coolers is supplied with cooling water from its respective pump's discharge line. After the water has been passed through the cooler it returns to its respective pump's suction line. The cooling water quantity needed for each cooler is approximately 1% to 5% of the design flow of the pumps so that the recirculation of this small amount of heated water will not affect pump or cooler operation.

Operation of the fans and coolers is required during shutdown and thus additional surveillance is not required.

Verification that access doors to each vault are closed following entrance by personnel is covered by station operating procedures.

The LHGR shall be checked daily to determine if fuel burnup or control rod movement has caused changes in power distribution. Since changes due to burnup are slow and only a few control rods are moved daily, a daily check of power distribution is adequate.

Average Planar LHGR

At core thermal power levels less than or equal to 25%, operating plant experience and thermal hydraulic analyses indicate that the resulting average planar LHGR is below the maximum average planar LHGR by a considerable margin; therefore, evaluation of the average planar LHGR below this power level is not necessary. The daily requirement for calculating average plant LHGR above 25% rated thermal power is sufficient, since power distribution shifts are slow when there have not been significant power or control rod changes.

3.5/4.5-18

QUAD CITIES
DPR-29

Local LHGR

The LHGR as a function of core height shall be checked daily during reactor operation at greater than or equal to 25% power to determine if fuel burnup or control rod movement has caused changes in power distribution. A limiting LHGR value is precluded by a considerable margin when employing any permissible control rod pattern below 25% rated thermal power.

Minimum Critical Power Ratio (MCPR)

At core thermal power levels less than or equal to 25%, the reactor will be operating at minimum recirculation pump speed and the moderator void content will be very small. For all designated control rod patterns which may be employed at this point, operating plant experience and thermal hydraulic analysis indicate that the resulting MCPR value is in excess of requirements by a considerable margin. With this low void content, any inadvertent core flow increase would only place operation in a more conservative mode relative to MCPR.

The daily requirement for calculating MCPR above 25% rated thermal power is sufficient, since power distribution shifts are very slow when there have not been significant power or control rod changes. In addition, the K_f correction applied to the LCO provides margin for flow increases from low flows.

3.5/4.5-19



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. 91
License No. DPR-30

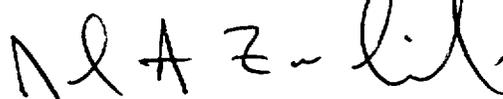
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Commonwealth Edison Company (the licensee) dated March 22, 1985, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules 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 3.B. of Facility Operating License No. DPR-30 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 91, 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



John A. Zwolinski, Director
BWR Project Directorate #1
Division of BWR Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 11, 1986

ATTACHMENT TO LICENSE AMENDMENT NO. 91

FACILITY OPERATING LICENSE NO. DPR-30

DOCKET NO. 50-265

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change.

REMOVE

3.5/4.5-8
3.5/4.5-9

3.5/4.5-15a
3.5/4.5-16
3.5/4.5-17
3.5/4.5-18

INSERT

3.5/4.5-8
3.4/4.5-9
*3.5/4.5-9a
3.5/4.5-15a
3.5/4.5-16
3.5/4.5-17
*3.5/4.5-18

*Pagination change only

2. The discharge pipe pressure for the systems in Specification 3.5.G.1 shall be maintained at greater than 40 psig and less than 90 psig. If pressure in any of these systems is less than 40 psig or greater than 90 psig, this condition shall be alarmed in the control room and immediate corrective action taken. If the discharge pipe pressure is not within these limits in 12 hours after the occurrence, an orderly shutdown shall be initiated, and the reactor shall be in a cold shutdown condition within 24 hours after initiation.

H. Condensate Pump Room Flood Protection

1. The systems installed to prevent or mitigate the consequences of flooding of the condensate pump room shall be operable prior to startup of the reactor.
2. The condenser pit water level switches shall trip the condenser circulating water pumps and alarm in the control room if water level in the condenser pit exceeds a level of 5 feet above the pit floor. If a failure occurs in one of these trip and alarm circuits, the failed circuit shall be immediately placed in a trip condition and reactor operation shall be permissible for the following 7 days unless the circuit is sooner made operable.

2. Following any period where the LPCI mode of the RHR or core spray ECCS have been out of service and drained for maintenance, the discharge piping of the Inoperable system shall be vented from the high point prior to the return of the system to service.

3. Whenever the HPCI or RCIC system is lined up to take suction from the torus, the discharge piping of the HPCI and RCIC shall be vented from the high point of the system and water flow observed on a monthly basis.

4. The pressure switches which monitor the discharge lines and the discharge of the fill system pump to ensure that they are full shall be functionally tested every month and calibrated every 3 months. The pressure switches shall be set to alarm at a decreasing pressure of ≥ 40 psig and an increasing pressure of ≤ 90 psig.

H. Condensate Pump Room Flood Protection

1. The following surveillance requirements shall be observed to assure that the condensate pump room flood protection is operable.
 - a. The piping and electrical penetrations, bulkhead doors, and submarine doors for the vaults containing the RHR service water pumps and diesel generator cooling pumps shall be checked during each operating cycle by pressurizing to 15 ± 2 psig and checking for leaks using a soap bubble solution. The criteria for acceptance shall be no visible leakage through the soap bubble solution.

3. If Specification 3.5.H.1 and 2 cannot be met, reactor startup shall not commence or if operating an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition within 24 hours.

b. During each operating cycle, the following flood protection level switches shall be functionally tested to give the following control room alarms:

1) turbine building equipment drain sump high level

2) vault high level

c. The RHR service water vault sump pump discharge check valves outside the vault shall be tested for integrity, using clean demineralized water, at least once per operating cycle.

d. The condenser pit 5-foot trip circuits for each channel shall be checked once a month. A logic system functional test shall be performed during each refueling outage.

I. Average Planar LHGR

During steady-state power operation, the average linear heat generation rate (APLHGR) of all the rods in any fuel assembly, as a function of average planar exposure, at any axial location, shall not exceed the maximum average planar LHGR shown in Figure 3.5-1. If at any time during operation it is determined by normal surveillance that the limiting value for APLHGR is being exceeded, action shall be initiated within 15 minutes to restore operation to within the prescribed limits. If the APLHGR is not returned in within the prescribed limits within 2 hours, the reactor shall be brought to the cold shutdown condition within 36 hours. Surveillance and corresponding action shall continue until reactor operation is within the prescribed limits.

I. Average Planar LHGR

Daily during steady-state operation above 25% rated thermal power, the average planar LHGR shall be determined.

J. Local LHGR

Daily during steady-state power operation above 25% of rated thermal power, the local LHGR shall be determined.

J. Local LHGR

During steady-state power operation, the linear heat generation rate (LHGR) of any rod in any fuel assembly at any axial location shall not exceed the maximum allowable LHGR. If at any time during operation it is determined by normal surveillance that the limiting value for LHGR is being exceeded, action shall be initiated within 15 minutes to restore operation to within the prescribed limits. If the LHGR is not returned to

The watertight bulkhead and submarine doors and the penetration seals for pipes and cables penetrating the vault walls and ceilings have been designed to withstand the maximum flood conditions. To assure that their installation is adequate for maximum flood conditions, a method of testing each seal has been devised.

In order to test an electrical penetration or pipe seal, compressed air is supplied to a test connection and the space between the fittings is pressurized to approximately 15 psig. The outer faces are then tested for leaks using a soap bubble solution.

QUAD-CITIES

In order to test the submarine doors, a test frame must be installed around each door. The frame is then pumped to a pressure of approximately 15 psig and held to test for leaktightness. The watertight bulkhead doors are tested by pressurizing the volume between the double-gasket seals to approximately 15 psig. The gasket seal area is inspected using a soap bubble solution. Each RHR service water vault contains a sump, which will collect any floor or equipment leakage inside the vault. A sump pump will automatically start on high level in the sump, and will pump the water out of the vault, via 2 discharge check valves outside the vault to the service water discharge pipe. A composite sampler is located on the sump discharge line. A radiation monitor is also located on the service water discharge. The sump discharge water is not expected to be contaminated, and any in-leakage to the vault is prevented by 2 check valves. Surveillance of these check valves is performed each operating cycle to assure their integrity. The previously installed bed-plate drains to the turbine building equipment drain sump have been capped off permanently.

A level switch set at a water level of 6 inches is located inside each vault. Upon actuation, the switch alarms in the control room to notify the operator of trouble in the vault. The operator will also be aware of problems in the vaults/condensate pump room if the high-level alarm on the equipment drain sump is not terminated in a reasonable amount of time.

A system of level switches has been installed in the condenser pit to indicate and control flooding of the condenser area. The following switches are installed:

Level	Function
a. 1 foot (one switch)	alarm, low water level
b. 3 feet (one switch)	alarm, high water level
c. 5 feet (two redundant switch pairs)	alarm and circulating water pump trip

Level (a) indicates water in the condenser pit from either the hotwell or the circulating water system. Level (b) is above the hotwell capacity and indicates a probable circulating water failure.

QUAD CITIES
DPR-30

Should the switches at levels (a) and (b) fail or the operator fail to trip the circulating water pumps on alarm at level (b), the actuation of either level switch pair at level (c) shall trip the circulating water pumps automatically and alarm in the control room. These redundant level switch pairs at level (c) are designed and installed to IEEE 279, "Criteria for Nuclear Power Plant Protection Systems." As the circulating water pumps are tripped, either manually or automatically at level (c) of 5 feet, the maximum water level reached in the condenser pit due to pumping will be at elevation 568 feet 6 inches elevation (10 feet above condenser pit floor elevation 558 feet 6 inches; 5 feet plus an additional 5 feet attributed to pump coastdown).

In order to prevent the RHR service water pump motors and diesel-generator cooling water pump motors from overheating a vault cooler is supplied for each pump. Each vault cooler is designed to maintain the vault at a maximum of 105°F temperature during operation of its respective pump. For example, if diesel generator cooling water pump 1/2-3903 starts, its cooler also starts and maintains the vault at 105°F by removing heat supplied to the vault by the motor of pump 1/2-3903. If, at the same time that pump 1/2-3903 is in operation, RHR service water pump 1C starts, its cooler will also start and compensate for the added heat supplied to the vault by the 1C pump motor keeping the vault at 105°F.

Each of the coolers is supplied with cooling water from its respective pump's discharge line. After the water has been passed through the cooler it returns to its respective pump's suction line. The cooling water quantity needed for each cooler is approximately 1% to 5% of the design flow of the pumps so that the recirculation of this small amount of heated water will not affect pump or cooler operation.

Operation of the fans and coolers is required during shutdown and thus additional surveillance is not required.

Verification that access doors to each vault are closed following entrance by personnel is covered by station operating procedures.

The LHGR shall be checked daily to determine if fuel burnup or control rod movement has caused changes in power distribution. Since changes due to burnup are slow and only a few control rods are moved daily, a daily check of power distribution is adequate.

Average Planar LHGR

At core thermal power levels less than or equal to 25%, operating plant experience and thermal hydraulic analyses indicate that the resulting average planar LHGR is below the maximum average planar LHGR by a considerable margin; therefore, evaluation of the average planar LHGR below this power level is not necessary. The daily requirement for calculating average plant LHGR above 25% rated thermal power is sufficient, since power distribution shifts are slow when there have not been significant power or control rod changes.

3.5/4.5-17

Amendment No: 81

QUAD CITIES
DFR-30

Local LHGR

The LHGR as a function of core height shall be checked daily during reactor operation at greater than or equal to 25% power to determine if fuel burnup or control rod movement has caused changes in power distribution. A limiting LHGR value is precluded by a considerable margin when employing any permissible control rod pattern below 25% rated thermal power.

Minimum Critical Power Ratio (MCPR)

At core thermal power levels less than or equal to 25%, the reactor will be operating at minimum recirculation pump speed and the moderator void content will be very small. For all designated control rod patterns which may be employed at this point, operating plant experience and thermal hydraulic analysis indicate that the resulting MCPR value is in excess of requirements by a considerable margin. With this low void content, any inadvertent core flow increase would only place operation in a more conservative mode relative to MCPR.

The daily required for calculating MCPR above 25% rated thermal power is sufficient, since power distribution shifts are very slow when there have not been significant power or control rod changes. In addition, the K_f correction applied to the LCO provides margin for flow increases from low flows.

3.5/4.5-18



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 95 TO FACILITY OPERATING LICENSE NO. DPR-29
AND AMENDMENT NO. 91 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. 50-254/265

1.0 INTRODUCTION

By letter dated March 22, 1985, Commonwealth Edison Company (the licensee) submitted a proposed Technical Specification (TS) change to reflect the recent installation of the Residual Heat Removal Service Water (RHRSW) Sump Pumps in the Residual Heat Removal (RHR) vault rooms. The proposed changes incorporate surveillance requirements associated with the RHR vault flood protection systems.

2.0 EVALUATION

The Technical Specification changes proposed by the licensee delete flood protection surveillance requirements for the RHR vault room floor drains and bed plate drains as these drain paths have been permanently capped and are no longer used. Surveillance requirements associated with the addition of the RHRSW sump pump and associated piping are added to TS Section 3.5/4.5 H. Surveillance acceptance criteria are specified in the associated bases. The staff finds the proposed changes acceptable as discussed below.

2.1 Condensate Pump Room Flood Protection (TS Section 3.5/4.5 H.1.a, 3.5/4.5 H.1.b, 3.5/4.5 H.1.c)

Until recently, accumulated leakage in the RHR vault rooms was directed via drains to the turbine building equipment drain sump located in the condensate pump room. The RHR vault rooms were physically separated from the condensate pump rooms by watertight bulkhead doors and the

drain lines from the RHR vault rooms consisted of a pipe penetrating each vault which required manual action to drain a vault floor. In order to decrease the potential for inadvertently flooding the RHR vault rooms by backflow from the turbine building equipment drain line through the Diesel Generator Cooling Water (DGCW) bed plate and RHR vault floor drains, a plant modification permanently capped the floor drain lines which penetrate the RHR vault rooms and installed sump pumps in each of the three RHR vault rooms to pump any collected leakage from the RHR vault rooms to the service water discharge lines.

As a result of the permanent capping of the drain lines, leak testing of both the DGCW bed plate and RHR vault floor drains is no longer necessary. The TS is revised to delete surveillance requirements for the RHR vault floor drains and the RHR Service Water pump and DGCW pump bed plate drains. Requirements to verify the operability of flood protection level switches in both the condensate pump rooms and RHR vault rooms are added. In addition, check valves installed in the RHRSW sump pump discharge piping which connects the pump with the service water discharge line are verified by positive means to prevent backflow from the condensate pump room to the RHR vault rooms. Verification of the integrity of the flood protection level switches and the check valves is performed at least once per operating cycle. Leak tests of the doors connecting the RHR vault rooms with the condensate pump room are also specified and described.

To accommodate the surveillance requirement additions and changes to the text, a new TS page, 3.5/4.5-9a, was created.

The staff has reviewed the above TS changes and find they adequately describe the new sump pump system and the surveillances necessary to assure operability and the changes are therefore acceptable.

2.2 Surveillance Requirements Bases (TS Section 4.5)

TS Section 4.5 is revised to delete the bases associated with the leak testing of the floor drains discussed in item 2.1 above, address the bases for leak testing the submarine doors installed as part of the plant modification, and to clarify the method used to leak test the watertight bulkhead doors and the submarine doors, both of which provide access between the condensate pump room and each of the three RHR vault rooms. Leak detection methods include leak testing both doors, and monitoring the composite sampler and radiation monitor installed downstream of the sump pump inlet in the service water discharge piping. The 6 inch water level alarm which alerts the operators to the presence of water in each of the RHR vault rooms is also discussed.

The current TS defines both the 1 foot switch and the 3 foot switch alarms as indicative of high water level. Definition of both alarms as indicating high water level was confusing. The function of the 1 foot switch is redefined as, "alarm, low water level," in lieu of "alarm, panel high water," for clarity.

The staff has review the proposed Basis changes and find they adequately describe the new system; therefore, they are acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

These amendments involve a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20, and changes to the surveillance requirements. The staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement nor environmental assessment need be prepared in connection with the issuance of these amendments.

4.0 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, 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 nor to the health and safety of the public.

Principal Contributor: Patricia Eng

Dated: August 11, 1986

August 11, 1986

MEMORANDUM FOR: Sholly Coordinator

FROM: John A. Zwolinski, Director
BWR Project Directorate #1, DBL

SUBJECT: REQUEST FOR PUBLICATION IN BIWEEKLY FR NOTICE - NOTICE
OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSES
(TAC 57878/9)

DISTIRBUTION:
Docket Nos. 50-254/265
BWD-1 r/f
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Commonwealth Edison Company, Docket Nos. 50-254 and 50-265, Quad Cities
Nuclear Power Station, Units 1 and 2, Rock Island County, Illinois

Date of application for amendment: March 22, 1985

Brief description of amendment: The amendments incorporate surveillance
requirements for residual heat removal (RHR) vault flood protection systems
which were recently installed for RHR service water sump pumps in the RHR
vault rooms.

Date of issuance: August 11, 1986

Effective date: August 11, 1986

Amendment Nos.: 95 & 91

Facility Operating License Nos. DPR-29 and DPR-30. Amendments revised the
Technical Specifications.

Date of initial notice in Federal Register: June 17, 1985 (50 FR 29008)

The Commission's related evaluation of the amendment is contained in a
Safety Evaluation dated

No significant hazards consideration comments received: No.

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Street, Moline, Illinois 61265.

ORIGINAL SIGNED BY

John A. Zwolinski, Director
BWR Project Directorate #1, DBL

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