May 12, 1987

Docket Nos. STN 50-454
and STN 50-455

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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 No. 8 to Facility Operating License No. NPF-37 and Amendment No. 8 to Facility Operating License No. NPF-66 for the Byron Station, Unit Nos. 1 and 2, respectively. The amendments consist of changes to the Technical Specifications in response to your application transmitted by letter dated March 24, 1987.

These amendments change Technical Specification 3/4.7.5 to allow plant operation with the essential service water pump discharge temperature greater than 80°F, but less than 98°F, with no cooling tower fans running. Operation in this condition would be allowed only during the ultimate heat sink cooling tower performance testing.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular bi-weekly Federal Register notice.

Sincerely,
Original signed by/

Leonard N. Olshan, Project Manager
Project Directorate III-2
Division of Reactor Projects - III, IV,
V and Special Projects

Enclosures:
1. Amendment No. 8 to NPF-37
2. Amendment No. 8 to NPF-66
3. Safety Evaluation

cc: w/enclosures
See next page

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PDI-1:LA	PDIII-2:PM	PDIII-2:D	OGC-Bethsda
CVogan	LOlshan	DMuller	SHLewis
5/ /87	5/4 /87	5/7/87	5/6/87

No legal objection, subject to changes discussed with L. Olshan

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Byron Station (other)
Units 1 and 2

cc:

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

COMMONWEALTH EDISON COMPANY

DOCKET NO. STN 50-454

BYRON STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 8
License No. NPF-37

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Commonwealth Edison Company (the licensee) dated March 24, 1987, 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. NPF-37 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 8 and the Environment Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Daniel R. Muller, Director
Project Directorate III-2
Division of Reactor Projects - III, IV, V and Special Projects

Attachment:
Changes to the Technical Specifications

Date of Issuance: May 12, 1987

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

COMMONWEALTH EDISON COMPANY

DOCKET NO. STN 50-455

BYRON STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 8
License No. NPF-66

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Commonwealth Edison Company (the licensee) dated March 24, 1987, 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. NPF-66 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix (NUREG-1113), as revised through Amendment No. 8 and revised by Attachment 2 to NPF-60, and the Environmental Protection Plan contained in Appendix B, both of which were attached to License No. NPF-37, dated February 14, 1985, are hereby incorporated into this license. Attachment 2 contains a revision to Appendix A which is hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Daniel R. Muller, Director
Project Directorate III-2
Division of Reactor Projects - III, IV, V and Special Projects

Attachment:
Changes to the Technical Specifications

Date of Issuance: May 12, 1987

ATTACHMENT TO LICENSE AMENDMENT NOS. 8 AND 8

FACILITY OPERATING LICENSE NOS. NPF-37 AND NPF-66

DOCKET NOS. STN-50-454 AND STN 50-455

Revise Appendix A as follows:

Remove Pages	Insert Pages
3/4 7-13	3/4 7-13
3/4 7-14	3/4 7-14

3/4.7.5 ULTIMATE HEAT SINK

LIMITING CONDITION FOR OPERATION

3.7.5 Two independent ultimate heat sinks (UHS) cooling towers shall be OPERABLE, each with

a. A minimum water level in the UHS cooling tower basin of 873.75 feet Mean Sea Level (MSL) (50%),

b. With only Unit 1 operating, fans OA, OB, OE, and OF are required to be OPERABLE. With only Unit 2 operating, fans OC, OD, OG, and OH are required to be OPERABLE. With both Units 1 and 2 operating, 3 fans with power supplied from each unit are required to be OPERABLE (total of 6 fans),

c. One OPERABLE essential service water makeup pump per train,

d.* An essential service water pump discharge temperature of less than or equal to 80°F with less than 4 fans running in high speed; or less than or equal to 98°F with all 4 fans running in high speed,

e. A minimum Rock River water level at or above 670.6 feet MSL, USGS datum, at the river screenhouse, and

f. Two OPERABLE deep wells with:

   (1) Rock River water level forecast by National Weather Service to exceed 702.0 feet MSL, or

   (2) Rock River water level at or below 670.6 feet MSL, or

   (3) Tornado watch issued by National Weather Service that includes Byron site area.

APPLICABILITY: MODES 1, 2, 3, and 4

ACTION:

a. With a water level of less than 873.75 feet MSL (50%) in either UHS cooling tower basin, restore the water level to 873.75 feet MSL in each UHS cooling tower basin within 6 hours or be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one of the fans contained in the applicable combination listed above inoperable, restore the listed fans to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

*No fans are required to be running during UHS cooling tower performance testing; however, the essential service water pump discharge temperature must be maintained at less than or equal to 98°F.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION (Continued)

c. With one essential service water makeup pump inoperable, restore the essential service water makeup pump to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

d. With the essential service water pump discharge water temperature not meeting the above requirement, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

e. With the minimum Rock River water level not meeting the above requirement, notify the NRC within 1 hour in accordance with the procedure of 10 CFR 50.72 of actions or contingencies to ensure an adequate supply of cooling water to the Byron Station for a minimum of 30 days, verify the Rock River flow within 1 hour, and:

(1) If Rock River flow is less than 700 cubic feet per second (cfs) be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours, or

(2) If Rock River flow is equal to or greater than 700 cfs continue verification procedure every 12 hours or until Rock River water level exceeds 670.6 feet MSL or

(3) If Rock River level is equal to or less than 664.7 feet MSL be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours

f. With one deep well inoperable and:

(1) The Rock River water level predicted, through National Weather Service flood forecasts, to exceed 702 feet MSL, or

(2) The Rock River water level at or below 670.6 feet MSL, or

(3) A tornado watch issued by the NWS that includes the area for the Byron Station.

Notify the NRC within 1 hour in accordance with the procedure of 10 CFR 50.72 of actions or contingencies to ensure an adequate supply of cooling water to the Byron Station for a minimum of 30 days and restore both wells to OPERABLE status before the Rock River water level exceeds 702 feet MSL or the minimum Rock River level or flow falls below 664.7 feet MSL or 700 cfs, respectively, or within 72 hours, whichever occurs first, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.5 The UHS shall be determined OPERABLE at least once per:

a. 24 hours by verifying the water level in each UHS cooling tower basin to be greater than or equal to 873.5 feet MSL. (50%),

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 8 TO FACILITY OPERATING LICENSE NO. NPF-37

AND AMENDMENT NO. 8 TO FACILITY OPERATING LICENSE NO. NPF-66

COMMONWEALTH EDISON COMPANY

BYRON STATION, UNITS 1 AND 2

DOCKET NOS. STN 50-454 AND STN-50-455

1. INTRODUCTION

For the purpose of performance testing the Byron Essential Service Water (ESW) Cooling Towers, the licensee has proposed a change to Technical Specification 3/4.7.5d which requires four cooling tower fans to be running in high speed when the ESW pump discharge temperature is greater than 80°F. During additional performance testing of the ESW cooling towers, this proposed amendment would allow plant operation with the ESW pump discharge temperature greater than 80°F, but less than 98°F, with no cooling tower fans running. Operation in this condition is necessary to obtain data points near expected extreme accident and atmospheric conditions.

During a recent (4/28/87) telephone conversation with the licensee, we learned that the cooling tower performance tests will only attain about 10 to 15% of the design heat load (about 40,000,000 btu/hr vs about 540,000,000 Btu/hr) and this will only be an instantaneous peak load. The data obtained at this lower heat load during the performance tests will be used to extrapolate cooling tower performance at the higher heat loads. Since the performance testing and tower validation methodology have not been made available to the staff, we have some reservations regarding this method of trying to validate cooling tower performance. This safety evaluation does not reflect NRC acceptance of the testing methodology at this time.

The cooling tower test program is scheduled to continue through the summer 1987 to validate and refine the tower performance estimates. Upon completion of the test program we will review the report containing the test results in order to be assured that the cooling towers will perform as predicted under extreme accident and atmospheric conditions. Upon satisfactory acceptance of tower performance, the relief from the 80°F ESW pump discharge limit with no fans running will no longer be applicable.

2. EVALUATION

The proposed amendments involve temporary operation of the ESW system with the ESW pump discharge temperature greater than 80°F and no cooling tower fans running. The limiting previously evaluated accident

which is dependent upon ultimate heat sink cooling is a large break LOCA with loss of offsite power. The probability of occurrence of this accident is not affected by operation of ESW cooling tower fans.

The consequences of a large break LOCA with loss of offsite power will not be significantly increased by operating the ESW system with ESW pump discharge temperature greater than 80°F and no cooling tower fans running. This is because the cooling tower fans are manually operated and a 20-30 minute time period is conservatively required for operator action. The 80°F alarm allows 20-30 minutes for operator action before the temperature will reach 98°F. Since the plant operators will be closely monitoring ESW pump discharge temperature during the Cooling Tower tests, the operator reaction time would be less than a minute and thus the 80°F Technical Specification limit is unnecessary. With all four cooling tower fans running there should be more than 100% capacity to handle the most severe heat load under worst case meteorological conditions. As a further precaution, the test operating procedures will instruct the plant operator to start the fans on a safety injection signal during the test.

Operation of the plant in accordance with the proposed amendment will not change the design of the ESW system. Other systems that are dependent on ESW cooling will not be affected. Consequently, performance of the cooling tower testing with an ESW pump discharge temperature greater than 80°F and no fans running will not create the possibility of a new or different kind of accident.

The capability of the ESW system to remove heat will not be affected by operation of the system in accordance with the proposed amendment. As long as the cooling tower fans are started prior to reaching 98°F, the temperature limit of 98°F will not be exceeded. Therefore, the margin of safety has not been significantly reduced.

3. ENVIRONMENTAL CONSIDERATION

These amendments involve a change in the installation or use of the facilities components located within the restricted areas as defined in 10 CFR 20. The staff has determined that these 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 Sec 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need 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.

Dated: May 12, 1987

PRINCIPAL CONTRIBUTORS: L. Olshan and G. Staley