

March 25, 1992

Docket Nos. STN 50-454
and STN 50-456

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

Dear Mr. Kovach:

DISTRIBUTION:

B. Boger
J. Zwolinski
R. Barrett
OGC
B. Clayton, RIII
W. Jones
ACRS (10)
OC/LFMB
A. Hsia
F. Orr, 8E23

Docket Files
PDIII-2 r/f
R. Pulsifer
C. Moore (2)
D. Hagan
G. Hill (8)
C. Grimes
OPA
PDIII-2 Gray Files
NRC & Local PDRs

SUBJECT: ISSUANCE OF AMENDMENTS (TAC NOS. M79802 AND M79613)

The Commission has issued the enclosed Amendment No. 34 to Facility Operating License No. NPF-37 for the Byron Station, Unit No. 1, and Amendment No. 34 to Facility Operating License No. NPF-72 for the Braidwood Station, Unit No. 1. The amendments are in response to your application dated October 26, 1990, as supplemented April 23, 1991, November 18, 1991, and February 6, 1992.

These amendments were submitted to change a portion of the Technical Specification Tables 2.2-1 and 3.3-4, Reactor Trip System Instrumentation Trip Setpoints and Engineered Safety Features Actuation System Instrumentation Trip Setpoints, respectively. New setpoints were specified for the low-low steam generator water level reactor trip and feedwater initiation for the Unit 1 Model D-4 steam generators. Results from the recently completed CECO setpoint study were also incorporated in determining the new setpoints.

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

Sincerely,

Original signed by;
Robert M. Pulsifer for

Anthony H. Hsia, Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 34 to NPF-37
2. Amendment No. 34 to NPF-72
3. Safety Evaluation

THIS FILE BEGINS COPY

cc w/enclosures:

See next page

OFFICIAL RECORD COPY

Office: LA/PDIII-2

Name: C. Moore

Date: 3/5/92

PD/PDIII-2

A. Hsia

3/15/92

PM/PDIII-2

R. Pulsifer

3/15/92

SRXB

F. Orr

3/16/92

D/PDIII-2

R. Barrett

3/16/92

OGC

R. Pulsifer

3/16/92

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P PDR

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WFO
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Mr. Thomas J. Kovach
Commonwealth Edison Company

cc:

Mr. William P. Poirier
Westinghouse Electric Corporation
Energy Systems Business Unit
Post Office Box 355, Bay 236 West
Pittsburgh, Pennsylvania 15230

Joseph Gallo, Esquire
Hopkins and Sutter
888 16th Street, N.W., Suite 700
Washington, D.C. 20006

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

Ms. Bridget Little Rorem
Appleseed Coordinator
117 North Linden Street
Essex, Illinois 60935

Mr. Edward R. Crass
Nuclear Safeguards and Licensing
Division
Sargent & Lundy Engineers
55 East Monroe Street
Chicago, Illinois 60603

U. S. Nuclear Regulatory Commission
Resident Inspectors Office
Rural Route #1, Box 79
Braceville, Illinois 60407

Mr. Ron Stephens
Illinois Emergency Services
and Disaster Agency
110 East Adams Street
Springfield, Illinois 62706

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

EIS Review Coordinator
Environmental Protection Agency
Region V
230 S. Dearborn Street
Chicago, Illinois 60604

Attorney General
500 South 2nd Street
Springfield, Illinois 62701

Byron/Braidwood Power Stations

U. S. Nuclear Regulatory Commission
Byron/Resident Inspectors Office
4448 North German Church Road
Byron, Illinois 61010

Ms. Lorraine Creek
Rt. 1, Box 182
Manteno, Illinois 60950

Mrs. Phillip B. Johnson
1907 Stratford Lane
Rockford, Illinois 61107

Douglass Cassel, Esquire
17 East Monroe Street, Suite 212
Chicago, Illinois 60603

Michael Miller, Esquire
Sidley and Austin
One First National Plaza
Chicago, Illinois 60690

George L. Edgar
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Washington, D.C. 20036

Commonwealth Edison Company
Byron Station Manager
4450 North German Church Road
Byron, Illinois 61010

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

Commonwealth Edison Company
Braidwood Station Manager
Rt. 1, Box 34
Braceville, Illinois 60407

Chairman, Ogle County Board
Post Office Box 357
Oregon, Illinois 61061

Chairman
Will County Board of Supervisors
Will County Board Courthouse
Joliet, Illinois 60434



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

COMMONWEALTH EDISON COMPANY

DOCKET NO. STN 50-454

BYRON STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 34
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 October 26, 1990, as supplemented April 23, 1991, November 18, 1991 and February 6, 1992, 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:

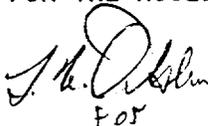
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P PDR

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 34 and the Environmental 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



FOR

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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 25, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 34

FACILITY OPERATING LICENSE NO. NPF-37

DOCKET NO. STN 50-454

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 Pages

2-5

3/4 3-26

Insert Pages

2-5

3/4 3-26

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TOTAL ALLOWANCE (TA)</u>	<u>Z</u>	<u>SENSOR ERROR (SE)</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
12. Reactor Coolant Flow-Low	2.5	1.77	0.6	$\geq 90\%$ of loop minimum measured flow*	$\geq 89.2\%$ of loop minimum measured flow*
13. Steam Generator Water Level Low-Low					
a. Unit 1	N.A.	N.A.	N.A.	$\geq 33.0\%$ of narrow range instrument span	$\geq 31.0\%$ of narrow range instrument span
b. Unit 2	N.A.	N.A.	N.A.	$\geq 36.3\%$ of narrow range instrument span	$\geq 35.4\%$ of narrow range instrument span
14. Undervoltage - Reactor Coolant Pumps	12.0	0.7	0	≥ 5268 volts - each bus	≥ 4728 volts - each bus
15. Underfrequency - Reactor Coolant Pumps	14.4	13.3	0	≥ 57.0 Hz	≥ 56.5 Hz
16. Turbine Trip					
a. Emergency Trip Header Pressure	N.A.	N.A.	N.A.	≥ 540 psig	≥ 520 psig
b. Turbine Throttle Valve Closure	N.A.	N.A.	N.A.	$\geq 1\%$ open	$\geq 1\%$ open
17. Safety Injection Input from ESF	N.A.	N.A.	N.A.	N.A.	N.A.
18. Reactor Coolant Pump Breaker Position Trip	N.A.	N.A.	N.A.	N.A.	N.A.

*Minimum measured flow = 97,600 gpm

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TOTAL ALLOWANCE (TA)</u>	<u>Z</u>	<u>SENSOR ERROR (SE)</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
5. Turbine Trip and Feedwater Isolation (continued)					
c. Safety Injection	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.				
6. Auxiliary Feedwater					
a. Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
c. Steam Generator Water Level-Low-Low-Start Motor-Driven Pump and Diesel-Driven Pump					
1) Unit 1	N.A.	N.A.	N.A.	>33.0% of narrow range instrument span	>31.0% of narrow range instrument span
2) Unit 2	N.A.	N.A.	N.A.	>36.3% of narrow range instrument span	>35.4% of narrow range instrument span
d. Undervoltage-RCP Bus-Start Motor Driven Pump and Diesel-Driven Pump	N.A.	N.A.	N.A.	>5268 volts	>4728 volts
e. Safety Injection-Start Motor-Driven Pump and Diesel-Driven Pump	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.				



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

COMMONWEALTH EDISON COMPANY

DOCKET NO. STN 50-456

BRAIDWOOD STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 34
License No. NPF-72

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Commonwealth Edison Company (the licensee) dated October 26, 1990, as supplemented April 23, 1991, November 18, 1991 and February 6, 1992, 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-72 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 34 and the Environmental 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



J. R. Barrett
for

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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 25, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 34

FACILITY OPERATING LICENSE NO. NPF-72

DOCKET NO. STN 50-456

Replace the following pages of the Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain vertical lines indicating the area of change.

Remove Pages

Insert Pages

2-5

2-5

3/4 3-26

3/4 3-26

3/4 3-26a

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TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

BRAIDWOOD - UNITS 1 & 2

2-5

Amendment No. 34

<u>FUNCTIONAL UNIT</u>	<u>TOTAL ALLOWANCE (TA)</u>	<u>Z</u>	<u>SENSOR ERROR (SE)</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
12. Reactor Coolant Flow-Low	2.5	1.77	0.6	>90% of loop minimum measured flow*	>89.2% of loop minimum measured flow*
13. Steam Generator Water Level Low-Low					
a. Unit 1	N.A.	N.A.	N.A.	>33.0% of narrow range instrument span	>31.0% of narrow range instrument span
b. Unit 2	17.0 (Cycle 3) N.A. (Cycle 4 and after)	14.78 (Cycle 3) N.A. (Cycle 4 and after)	1.5 (Cycle 3) N.A. (Cycle 4 and after)	>17% (Cycle 3); >36.3% (Cycle 4 and after) of narrow range instrument span	>15.3% (Cycle 3); >35.4% (Cycle 4 and after) of narrow range instrument span
14. Undervoltage - Reactor Coolant Pumps	12.0	0.7	0	>5268 volts - each bus	>4728 volts - each bus
15. Underfrequency - Reactor Coolant Pumps	14.4	13.3	0	>57.0 Hz	>56.5 Hz
16. Turbine Trip					
a. Emergency Trip Header Pressure	N.A.	N.A.	N.A.	>540 psig	>520 psig
b. Turbine Throttle Valve Closure	N.A.	N.A.	N.A.	>1% open	>1% open
17. Safety Injection Input from ESF	N.A.	N.A.	N.A.	N.A.	N.A.
18. Reactor Coolant Pump Breaker Position Trip	N.A.	N.A.	N.A.	N.A.	N.A.

*Minimum measured flow = 97,600 gpm

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TOTAL ALLOWANCE (TA)</u>	<u>Z</u>	<u>SENSOR ERROR (SE)</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
5. Turbine Trip and Feedwater Isolation (continued)					
c. Safety Injection	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.				
6. Auxiliary Feedwater					
a. Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
c. Steam Generator Water Level-Low-Low-Start Motor-Driven Pump and Diesel-Driven Pump					
1) Unit 1	N.A.	N.A.	N.A.	$\geq 33.0\%$ of narrow range instrument span	$\geq 31.0\%$ of narrow range instrument span
2) Unit 2	17.0 (Cycle 3) N.A. (Cycle 4 and after)	14.78 (Cycle 3) N.A. (Cycle 4 and after)	1.5 (Cycle 3) N.A. (Cycle 4 and after)	$\geq 17\%$ (Cycle 3); $\geq 36.3\%$ (Cycle 4 and after) of narrow range instrument span	$\geq 15.3\%$ (Cycle 3); $\geq 35.4\%$ (Cycle 4 and after) of narrow range instrument span
d. Undervoltage-RCP Bus-Start Motor Driven Pump and Diesel-Driven Pump	N.A.	N.A.	N.A.	≥ 5268 volts	≥ 4728 volts
e. Safety Injection-Start Motor-Driven Pump and Diesel-Driven Pump	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.				

BRAIDWOOD - UNITS 1 & 2

3/4 3-26

Amendment No. 34



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 34 TO FACILITY OPERATING LICENSE NO. NPF-37
AND AMENDMENT NO. 34 TO FACILITY OPERATING LICENSE NO. NPF-72
COMMONWEALTH EDISON COMPANY
BYRON STATION, UNIT NO. 1
BRAIDWOOD STATION, UNIT NO. 1
DOCKET NOS. STN 50-454 AND STN 50-456

1.0 INTRODUCTION

In a submittal dated October 26, 1990, as supplemented April 23, 1991, November 18, 1991, and February 6, 1992, the Commonwealth Edison Company (CECo) described proposed changes to the low-low steam generator (SG) level reactor trip/auxiliary feedwater initiation setpoints for the Unit 1 Model D-4 steam generators. These setpoints are contained in Technical Specification (TS) Tables 2.2-1 and 3.3-4, Reactor Trip System Instrumentation Trip Setpoints and Engineered Safety Features Actuation System Instrumentation Trip Setpoints, respectively. These proposed changes resulted from a reassessment of the setpoints using an updated setpoint methodology and will allow operation of the Unit 1 steam generators over a greater range during operational transients. The February 6, 1992, submittal provided additional clarifying information that did not change the initial proposed no significant hazards consideration determination.

The submittals also addressed the impact of the changes on the Updated Final Safety Analysis Report (UFSAR) Chapter 15 analyses, and proposed TS changes to reflect the modifications.

2.0 STAFF EVALUATION

2.1 Setpoint Changes

The Byron and Braidwood TSs express the SG low-low water level trips in terms of percent of narrow range water level instrument span (NRS). The SG recirculation flow velocity head is included in the consideration of revised setpoints. Velocity head effects result in indicated levels for any given power less than or equal to the actual level, with the amount of discrepancy varying directly but not proportionally with power.

The low-low SG level trip setpoints for the proposed Byron and Braidwood No. 1 Units TS changes account for the above considerations, and are based on consistency with safety analysis assumptions and with the setpoint methodology described in the Westinghouse Topical Reports WCAP-12583 and WCAP-12523.

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This methodology, incorporating the above considerations, has been used in previous Byron and Braidwood applications and was approved by the staff. Since the basic methodology has not been changed for this use, we also find it applicable to Byron and Braidwood Units 1 for the current setpoints determination.

2.2 Chapter 15 Analyses

2.2.1 Non-LOCA Event Analyses

The submittals provided an assessment of the impact of the changes on UFSAR Chapter 15 analyses and on Anticipated Transients Without Scram (ATWS) considerations. For Chapter 15 events and ATWS considerations, the licensee found that the calculated results for existing Byron and Braidwood analyses, performed assuming Model D-4 SGs, would be unaffected by the modified trip settings. The staff finds this acceptable.

2.2.2 LOCA Analyses

The licensee's submittals indicated that LOCA analyses were not adversely affected by the changes because analysis assumptions were not changed. We find this acceptable.

3.0 TECHNICAL SPECIFICATION CHANGES

The licensee's submittal proposed changes to two TS pages to be implemented in the operating cycle after SG modification for each unit (Byron Unit 1 and Braidwood Unit 1) to reflect the setpoint modifications discussed in Section 2.1 of this report. These are:

- (a) TS page 2-5, Table 2.2-1, Item 13.a., SG Water Level Low-Low reactor protection system (RPS) trip - values for total allowance (TA), parameters not measured on a periodic basis (Z), and sensor error (SE) are identified as not applicable (N.A.). The new trip setpoint is 33.0% of NRS and the new allowable value is 31.0% of NRS.
- (b) TS page 3/4 3-26, Table 3.3-4, Item 6.c.1, SG Water Level-Low-Low-Start Auxiliary Feedwater Motor-Driven Pump and Diesel-Driven Pump - the new values are the same as in (a) above.

The licensee's submittals based their justification of these modified setpoints on consistency with UFSAR Chapter 15 analyses assumptions and ATWS considerations, as discussed in Section 2.2 of this report.

We find the licensee's submittal, describing low-low SG level trip setpoint changes and analytical justifications acceptable based on use of a setpoint methodology which had been previously used in an approved application, and on justifications citing applicable UFSAR analyses using approved methodologies.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Illinois State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change 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. The NRC 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 the amendments involve no significant hazards consideration, and there has been no public comment on such finding (57 FR 2588). Accordingly, the 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 or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

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

Principal Contributor: F. Orr

Date: March 25, 1992