

March 15, 1996

Mr. D. L. Farrar
Manager, Nuclear Regulatory Services
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 500
Downers Grove, IL 60515

SUBJECT: ISSUANCE OF AMENDMENTS (TAC NOS. M94546, M94547, M94548, M94549)

Dear Mr. Farrar:

The U.S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment No. 80 to Facility Operating License No. NPF-37 and Amendment No. 80 to Facility Operating License No. NPF-66 for the Byron Station, Unit Nos. 1 and 2, respectively, and Amendment No. 72 to Facility Operating License No. NPF-72 and Amendment No. 72 to Facility Operating License No. NPF-77 for the Braidwood Station, Unit Nos. 1 and 2, respectively. The amendments are in response to your application dated January 11, 1996.

The amendments revise the action statements and allowed outage time for inoperability of one channel and both channels of source range neutron flux instrumentation in Shutdown Modes 3, 4, and 5.

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:

Ramin R. Assa, Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Docket Nos. STN 50-454, STN 50-455,
STN 50-456, STN 50-457

- Enclosures:
1. Amendment No. 80 to NPF-37
 2. Amendment No. 80 to NPF-66
 3. Amendment No. 72 to NPF-72
 4. Amendment No. 72 to NPF-77
 5. Safety Evaluation

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cc w/encls: see next page

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C. Grimes, 011E22	ACRS, T2E26
L. Miller, RIII	I. Ahmed, 08H3

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DOCUMENT NAME: BRAID-BY\BB94546.AMD

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D. L. Farrar
Commonwealth Edison Company

cc:

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

COMMONWEALTH EDISON COMPANY

DOCKET NO. STN 50-454

BYRON STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 80
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 January 11, 1996, 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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(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 80 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



George F. Dick, Senior Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 15, 1996



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555-0001

COMMONWEALTH EDISON COMPANY

DOCKET NO. N 50-455

BYRON STATION UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 80
License No. NPF-66

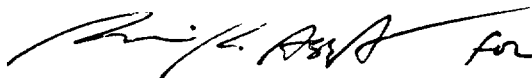
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Commonwealth Edison Company (the licensee) dated January 11, 1996, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter 1;
 - 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 A (NUREG-1113), as revised through Amendment No. 80 and revised by Attachment 2 to NPF-66, 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



George F. Dick, Senior Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 15, 1996

ATTACHMENT TO LICENSE AMENDMENT NOS. 80 AND 80
FACILITY OPERATING LICENSE NOS. NPF-37 AND NPF-66
DOCKET NOS. STN 50-454 AND STN 50-455

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

3/4 3-2
3/4 3-5
3/4 3-6

Insert Pages

3/4 3-2
3/4 3-5
3/4 3-6

TABLE 3.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
1. Manual Reactor Trip	2	1	2	1, 2	1
	2	1	2	3*, 4*, 5*	10
2. Power Range, Neutron Flux					
a. High Setpoint	4	2	3	1, 2	2
b. Low Setpoint	4	2	3	1###, 2	2
3. Power Range, Neutron Flux High Positive Rate	4	2	3	1, 2	2
4. Power Range, Neutron Flux, High Negative Rate	4	2	3	1, 2	2
5. Intermediate Range, Neutron Flux	2	1	2	1###, 2	3
6. Source Range, Neutron Flux					
a. Startup	2	1	2	2##	4
b. Shutdown*	2	1	2	3*, 4*, 5*	5a
c. Shutdown**	2	N/A	1	3**, 4**, 5**	5b
7. Overtemperature ΔT	4	2	3	1, 2	6
8. Overpower ΔT	4	2	3	1, 2	6
9. Pressurizer Pressure-Low (Above P-7)	4	2	3	1	6

TABLE 3.3-1 (Continued)

TABLE NOTATIONS

- *With the Reactor Trip System breakers in the closed position and the Control Rod Drive System capable of rod withdrawal.
- **With Reactor Trip System Breakers in the open position. In this condition, source range function does not provide reactor trip, but does provide input to the Boron Dilution Protection System (Technical Specification 3.1.2.7) and indication.
- ##Below the P-6 (Intermediate Range Neutron Flux Interlock) Setpoint.
- ###Below the P-10 (Low Setpoint Power Range Neutron Flux Interlock) Setpoint.
- @Whenever the Reactor Trip Bypass Breakers are racked in and closed for bypassing a Reactor Trip Breaker.

ACTION STATEMENTS

- ACTION 1 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in HOT STANDBY within the next 6 hours.
- ACTION 2 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
 - a. The inoperable channel is placed in the tripped condition within 6 hours;
 - b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.1.1; and
 - c. Either, THERMAL POWER is restricted to less than or equal to 75% of RATED THERMAL POWER and the Power Range Neutron Flux Trip Setpoint is reduced to less than or equal to 85% of RATED THERMAL POWER within 4 hours; or, the QUADRANT POWER TILT RATIO is monitored at least once per 12 hours per Specification 4.2.4.2.
- ACTION 3 - With the number of channels OPERABLE one less than the Minimum Channels OPERABLE requirement and with the THERMAL POWER level:
 - a. Below the P-6 (Intermediate Range Neutron Flux Interlock) Setpoint, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above the P-6 Setpoint; and
 - b. Above the P-6 (Intermediate Range Neutron Flux Interlock) Setpoint but below 10% of RATED THERMAL POWER, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above 10% of RATED THERMAL POWER.

TABLE 3.3-1 (Continued)
ACTION STATEMENTS (Continued)

- ACTION 4 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement suspend all operations involving positive reactivity changes.
- ACTION 5a - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or within the next hour open the reactor trip breakers. With no channels OPERABLE, immediately open the reactor trip breakers.
- ACTION 5b - With no channels OPERABLE, immediately suspend operations involving positive reactivity additions and within 1 hour verify valves CV-111B, CV-8428, CV-8439, CV-8441, and CV-8435 are closed. Also, within 1 hour and at least once per 12 hours thereafter, verify compliance with the SHUTDOWN MARGIN requirements of Specification 3.1.1.1 or 3.1.1.2, as applicable.
- ACTION 6 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
- a. The inoperable channel is placed in the tripped condition within 6 hours; and
 - b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.1.1.
- ACTION 7 - Deleted
- ACTION 8 - With less than the Minimum Number of Channels OPERABLE, within 1 hour determine by observation of the associated permissive annunciator window(s) that the interlock is in its required state for the existing plant condition, or apply Specification 3.0.3.
- ACTION 9 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 6 hours, or be in at least HOT STANDBY within the next 6 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.1.1, provided the other channel is OPERABLE.
- ACTION 10 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or open the Reactor trip breakers within the next hour.
- ACTION 11 - With the number of OPERABLE channels less than the Total Number of Channels, operation may continue provided the inoperable channels are placed in the tripped condition within 6 hours.



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

COMMONWEALTH EDISON COMPANY

DOCKET NO. STN 50-456

BRAIDWOOD STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 72
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 January 11, 1996, 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:

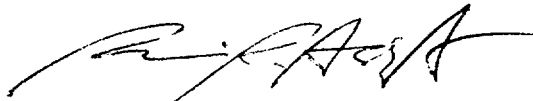
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P PDR

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 72 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



Ramin R. Assa, Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 15, 1996



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

COMMONWEALTH EDISON COMPANY

DOCKET NO. STN 50-457

BRAIDWOOD STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 72
License No. NPF-77


1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Commonwealth Edison Company (the licensee) dated January 11, 1996, 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 1;
 - 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-77 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 72 and the Environmental Protection Plan contained in Appendix B, both of which were attached to License No. NPF-72, dated July 2, 1987, 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



Ramin R. Assa, Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 15, 1996

ATTACHMENT TO LICENSE AMENDMENT NOS. 72 AND 72
FACILITY OPERATING LICENSE NOS. NPF-72 AND NPF-77
DOCKET NOS. STN 50-456 AND STN 50-457

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

3/4 3-2
3/4 3-5
3/4 3-6

Insert Pages

3/4 3-2
3/4 3-5
3/4 3-6

TABLE 3.3-1
REACTOR TRIP SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
1. Manual Reactor Trip	2	1	2	1, 2	1
	2	1	2	3*, 4*, 5*	10
2. Power Range, Neutron Flux					
a. High Setpoint	4	2	3	1, 2	2
b. Low Setpoint	4	2	3	1###, 2	2
3. Power Range, Neutron Flux High Positive Rate	4	2	3	1, 2	2
4. Power Range, Neutron Flux, High Negative Rate	4	2	3	1, 2	2
5. Intermediate Range, Neutron Flux	2	1	2	1###, 2	3
6. Source Range, Neutron Flux					
a. Startup	2	1	2	2##	4
b. Shutdown*	2	1	2	3*, 4*, 5*	5a
c. Shutdown**	2	N/A	1	3**, 4**, 5**	5b
7. Overtemperature ΔT	4	2	3	1, 2	6
8. Overpower ΔT	4	2	3	1, 2	6
9. Pressurizer Pressure-Low (Above P-7)	4	2	3	1	6

TABLE 3.3.3 (Continued)

TABLE EXPLANATIONS

- *With the Reactor Trip System breakers in the closed position and the Control Rod Drive System capable of rod withdrawal.
- **With Reactor Trip System Breakers in the open position. In this condition, source range function does not provide reactor trip, but does provide input to the Boron Dilution Protection System (Technical Specification 3.1.2.7) and indication.
- ##Below the P-6 (Intermediate Range Neutron Flux Interlock) Setpoint.
- ###Below the P-10 (Low Setpoint Power Range Neutron Flux Interlock) Setpoint.
- @Whenever the Reactor Trip Bypass Breakers are racked in and closed for bypassing a Reactor Trip Breaker.

ACTION STATEMENTS

- ACTION 1 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in HOT STANDBY within the next 6 hours.
- ACTION 2 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
 - a. The inoperable channel is placed in the tripped condition within 6 hours;
 - b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.1.1; and
 - c. Either, THERMAL POWER is restricted to less than or equal to 75% of RATED THERMAL POWER and the Power Range Neutron Flux Trip Setpoint is reduced to less than or equal to 85% of RATED THERMAL POWER within 4 hours; or, the QUADRANT POWER TILT RATIO is monitored at least once per 12 hours per Specification 4.2.4.2.
- ACTION 3 - With the number of channels OPERABLE one less than the Minimum Channels OPERABLE requirement and with the THERMAL POWER level:
 - a. Below the P-6 (Intermediate Range Neutron Flux Interlock) Setpoint, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above the P-6 Setpoint; and
 - b. Above the P-6 (Intermediate Range Neutron Flux Interlock) Setpoint but below 10% of RATED THERMAL POWER, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above 10% of RATED THERMAL POWER.

TABLE 3.3-1 (Continued)
ACTION STATEMENTS (Continued)

- ACTION 4 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement suspend all operations involving positive reactivity changes.
- ACTION 5a - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or within the next hour open the reactor trip breakers. With no channels OPERABLE, immediately open the reactor trip breakers.
- ACTION 5b - With no channels OPERABLE, immediately suspend operations involving positive reactivity additions and within 1 hour verify valves CV-111B, CV-8428, CV-8439, CV-8441, and CV-8435 are closed. Also, within 1 hour and at least once per 12 hours thereafter, verify compliance with the SHUTDOWN MARGIN requirements of Specification 3.1.1.1 or 3.1.1.2, as applicable.
- ACTION 6 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
- a. The inoperable channel is placed in the tripped condition within 6 hours; and
 - b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.1.1.
- ACTION 7 - Deleted
- ACTION 8 - With less than the Minimum Number of Channels OPERABLE, within 1 hour determine by observation of the associated permissive annunciator window(s) that the interlock is in its required state for the existing plant condition, or apply Specification 3.0.3.
- ACTION 9 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 6 hours, or be in at least HOT STANDBY within the next 6 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.1.1, provided the other channel is OPERABLE.
- ACTION 10 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or open the Reactor trip breakers within the next hour.
- ACTION 11 - With the number of OPERABLE channels less than the Total Number of Channels, operation may continue provided the inoperable channels are placed in the tripped condition within 6 hours.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 80 TO FACILITY OPERATING LICENSE NO. NPF-37,
AMENDMENT NO. 80 TO FACILITY OPERATING LICENSE NO. NPF-66,
AMENDMENT NO. 72 TO FACILITY OPERATING LICENSE NO. NPF-72,
AND AMENDMENT NO. 72 TO FACILITY OPERATING LICENSE NO. NPF-77
COMMONWEALTH EDISON COMPANY
BYRON STATION, UNIT NOS. 1 AND 2
BRAIDWOOD STATION, UNIT NOS. 1 AND 2
DOCKET NOS. STN 50-454, STN 50-455, STN 50-456 AND STN 50-457

1.0 INTRODUCTION

Byron Station, Units 1 and 2, and Braidwood Station, Units 1 and 2, Technical Specifications (TS) currently provide an allowed outage time (AOT) of 48 hours for one inoperable source range neutron flux instrumentation channel. The corresponding action statement indicates that if the inoperable channel is not restored to an operable status in Shutdown Modes 3, 4, and 5 within the next hour the reactor trip breakers (RTB) are to be opened, all operations involving positive reactivity addition are to be suspended and dilution valves are to be verified closed and secured in position. For the condition where both source range neutron flux instrumentation channels are inoperable, the current TS requirement is to perform the same actions within one hour as those required for the inoperability of one channel after 48 hours, verify compliance with the TS required shutdown margin and repeat this verification at least once per 12 hours thereafter.

By letter dated January 11, 1996, Commonwealth Edison Company (ComEd, the licensee) submitted proposed changes to the Byron/Braidwood TSs to delete the requirement to suspend all operations involving positive reactivity addition and to verify the closed status of the dilution valves when one source range neutron flux instrument channel is inoperable. The proposed changes also delete the 1-hour AOT from the action statement when both channels are inoperable and add a note to explain the function of the source range neutron flux instrumentation channels when RTBs are open.

2.0 EVALUATION

The source range neutron flux trip protects against an uncontrolled rod cluster control assembly (RCCA) bank withdrawal accident from a subcritical condition in Mode 2 (startup). This trip function provides redundant

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protection to the low setpoint trip of the power range and the intermediate range neutron flux instrumentation channels in Modes 2, 3, and 4 when the RTBs are in the closed position and the Control Rod Drive (CRD) system is capable of rod withdrawal. With the RTBs open or CRD system not capable of rod withdrawal, the source range detectors are not required to trip the reactor. However, the source range neutron flux monitoring system must be operable during shutdown to monitor core neutron levels, provide indication of reactivity changes that may occur as a result of events like boron dilution, and provide an input to the boron dilution protection system (BDPS). The Byron and Braidwood current TS action for one inoperable channel of source range neutron flux instrumentation during Modes 3, 4, and 5 requires restoration of the inoperable channel to an operable status within 48 hours, or within the next hour after the opening of the RTBs, suspending all operations involving positive reactivity changes, and verifying that the primary coolant dilution valves are closed and secured in position. For the condition where both channels of source range neutron flux instrumentation are inoperable, the current TS requires, within 1 hour verify compliance with the shutdown margin, perform the same actions as those required for the loss of one channel, and repeat the shutdown margin verification at least once per 12 hours thereafter.

The licensee determined that the current TS requirement to suspend all operation involving positive reactivity changes and verify the closed and secured position of dilution valves after opening the RTBs when only one channel of source range neutron flux instrumentation is inoperable is overly conservative and may have adverse effects on plant shutdown safety considerations such as maintaining reactor coolant system inventory and temperature control. With the RTBs open or the CRD system not capable of rod withdrawal, the source range detectors are not required to trip the reactor and, thus, no instrumentation redundancy is needed to single failure capability. The remaining operable source range neutron flux detector is sufficient to provide the necessary indications and input into the BDPS to mitigate the consequences of a possible dilution event during Shutdown Modes 3, 4, and 5. Thus, the licensee proposed elimination of the above TS action requirement. The proposed change is consistent with the approved Westinghouse Standard Technical Specifications (STS), NUREG-1431.

The licensee noted that the current TS permits 1 hour to open the RTBs, suspend all operations involving positive reactivity changes, and verify the closed status of dilution valves when both channels of source range neutron flux instrumentation are inoperable. This 1 hour AOT is non-conservative in that no indication of core reactivity status is available and, thus, the licensee proposed that the above required TS actions be immediately implemented on loss of source range neutron flux instrumentation. This proposed change is also consistent with the Westinghouse STS, NUREG-1431.

In addition to the above proposed changes to the TSs, the licensee proposed to add a note to clearly identify the function of the source range neutron flux instrumentation in the shutdown modes of operation. The new TSs will state that with one inoperable channel, restore the channel to operable status

within 48 hours or within the next hour open the RTBs, and with no channels operable, immediately open the RTBs and suspend operations involving positive reactivity addition. Verification of compliance with the TSs required shutdown margin will remain the same as required by the current TSs. The new TSs and the note are in accordance with the Westinghouse STS, NUREG-1431.

Based on the review of the licensee's submittal, the staff concludes that the proposed changes to the actions for inoperability of source range neutron flux instrument channels are consistent with the Westinghouse STS and do not degrade or adversely affect plant safety and are, therefore, acceptable.

3.0 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.

4.0 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 (61 FR 3509). 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.

5.0 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: I. Ahmed

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