

March 11, 1994

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

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

**DISTRIBUTION:**  
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J. Dyer  
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PDIII-2 p/f  
Docket File  
J. Zwolinski  
G. Dick  
T. Clark  
D. Hagan  
B. Clayton RIII  
ACRS (10)  
OC/LFDCB  
J. Rajan

Dear Mr. Farrar:

SUBJECT: ISSUANCE OF AMENDMENTS (TAC NOS. M87748, M87749, M87750, AND M87751)

The Commission has issued the enclosed Amendment No. 60 to Facility Operating License No. NPF-37 and Amendment No. 60 to Facility Operating License No. NPF-66 for the Byron Station, Unit Nos. 1 and 2, respectively, and Amendment No. 48 to Facility Operating License No. NPF-72 and Amendment No. 48 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 August 27, 1993, as supplemented February 21, 1994.

The amendments revise the requirements for snubber visual inspection intervals and corrective actions in accordance with Generic Letter 90-09. The amendments also remove two of the options for determining the sample size to be used for snubber functional testing. The supplemental letter dated February 21, 1994, did not change the original no significant hazards consideration.

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:**

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

**Enclosures:**

1. Amendment No. 60 to NPF-37
2. Amendment No. 60 to NPF-66
3. Amendment No. 48 to NPF-72
4. Amendment No. 48 to NPF-77
5. Safety Evaluation

cc w/enclosures:  
See next page

OFC	LA:PDIII-2	PM:PDIII-2	PM:PDIII-2	C:EMEB	D:PDIII-2	OGC
NAME	TCLARK	GDICK	RASSA	JNORBERG	JDYER	M2092
DATE	2/24/94	2/25/94	2/25/94	2/25/94	3/14/94	3/14/94
COPY	(YES/NO)	YES/NO	(YES/NO)	YES/NO	YES/NO	YES/NO

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See next page

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NAME	TCLARK <i>EXC</i>	GDICK <i>h</i>	RASSA <i>RA</i>	JNORBERG <i>for</i>	JDYER <i>DM</i>	<i>M20942</i>
DATE	<i>2/13/94</i>	<i>2/15/94</i>	<i>2/15/94</i>	<i>2/15/94</i>	<i>3/14/94</i>	<i>3/14/94</i>
COPY	<i>(YES/NO)</i>	YES/NO	<i>(YES/NO)</i>	YES/NO	<i>(YES/NO)</i>	YES/NO

*done with  
contacts*



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

March 11, 1994

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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,

A handwritten signature in cursive script that reads "George F. Dick Jr".

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

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See next page

Mr. D. L. Farrar  
Commonwealth Edison Company

cc:

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Will County Board Courthouse  
Joliet, Illinois 60434

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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. 60  
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 August 27, 1993, as supplemented February 21, 1994, 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:

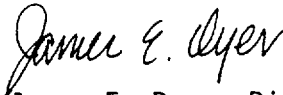
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(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 60 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



James E. Dyer, 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 11, 1994



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

COMMONWEALTH EDISON COMPANY

DOCKET NO. STN 50-455

BYRON STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 60  
License No. NPF-66

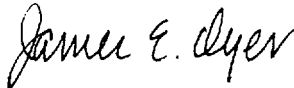
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Commonwealth Edison Company (the licensee) dated August 27, 1993, as supplemented February 21, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (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. 60 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



James E. Dyer, 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 11, 1994



ATTACHMENT TO LICENSE AMENDMENT NOS. 60 AND 60

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.

<u>Remove Pages</u>	<u>Insert Pages</u>
X	X
3/4 7-22	3/4 7-22
3/4 7-23	3/4 7-23
3/4 7-24	3/4 7-24
3/4 7-25	3/4 7-25
3/4 7-27	3/4 7-27
-	3/4 7-27a
-	3/4 7-27b
B 3/4 7-6	B 3/4 7-6

## LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

### SECTION

### PAGE

#### 3/4.7 PLANT SYSTEMS

##### 3/4.7.1 TURBINE CYCLE

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TABLE 3.7-1 MAXIMUM ALLOWABLE POWER RANGE NEUTRON  
FLUX HIGH SETPOINT WITH INOPERABLE  
STEAM LINE SAFETY VALVES DURING FOUR LOOP  
OPERATION.....

3/4 7-2

TABLE 3.7-2 STEAM LINE SAFETY VALVES PER LOOP.....

3/4 7-3

Auxiliary Feedwater System.....

3/4 7-4

Condensate Storage Tank.....

3/4 7-6

Specific Activity.....

3/4 7-7

TABLE 4.7-1 SECONDARY COOLANT SYSTEM SPECIFIC ACTIVITY

SAMPLE AND ANALYSIS PROGRAM.....

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Main Steam Line Isolation Valves.....

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3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION.....

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3/4.7.3 COMPONENT COOLING WATER SYSTEM.....

3/4 7-11

3/4.7.4 ESSENTIAL SERVICE WATER SYSTEM.....

3/4 7-12

3/4.7.5 ULTIMATE HEAT SINK.....

3/4 7-13

3/4.7.6 CONTROL ROOM VENTILATION SYSTEM.....

3/4 7-16

3/4.7.7 NON-ACCESSIBLE AREA EXHAUST FILTER PLENUM

VENTILATION SYSTEM.....

3/4 7-19

3/4.7.8 SNUBBERS.....

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FIGURE 4.7-1 THIS FIGURE NOT USED .....

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TABLE 4.7-2 SNUBBER VISUAL INSPECTION INTERVAL.....

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3/4.7.9 SEALED SOURCE CONTAMINATION.....

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LIMITING CONDITION FOR OPERATION

3.7.8 All snubbers shall be OPERABLE. Snubbers excluded from this requirement are those installed on nonsafety-related systems and then only if their failure or failure of the system on which they are installed would have no adverse effect on any safety-related system.

APPLICABILITY: MODES 1, 2, 3, and 4. MODES 5 and 6 for snubbers located on systems required OPERABLE in those MODES.

ACTION:

With one or more snubbers inoperable, within 72 hours replace or restore the inoperable snubber(s) to OPERABLE status and perform an engineering evaluation per Specification 4.7.8g. on the attached component or declare the attached system inoperable and follow the appropriate ACTION statement for that system.

SURVEILLANCE REQUIREMENTS

4.7.8 Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program and the requirements of Specification 4.0.5.

a. Inspection Types

As used in this specification, type of snubber shall mean snubbers of the same design and manufacturer, irrespective of capacity.

b. Visual Inspections

Snubbers are categorized as inaccessible or accessible during reactor operation. Each of these categories (inaccessible and accessible) may be inspected independently according to the schedule determined by Table 4.7-2. The visual inspection interval for each type shall be determined based upon the criteria provided in Table 4.7-2 and the first inspection interval determined using this criteria shall be based upon the previous inspection interval as established by the requirements in effect prior to amendment.

c. Visual Inspection Acceptance Criteria

Visual inspections shall verify that: (1) there are no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are functional and (3) fasteners for attachment of the snubber to the component and to the snubber anchorage are functional. Snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified acceptable for the purpose of establishing the next visual inspection interval, provided that: (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of type that may be generically susceptible; and (2) the affected snubber is functionally tested in the as-found condition and determined OPERABLE per Specification 4.7.8f. All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as unacceptable for determining the next inspection interval. A review and evaluation shall be performed and documented to justify continued operation with an inoperable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the ACTION requirements shall be met.

d. Transient Event Inspection

An inspection shall be performed of all snubbers attached to sections of systems that have experienced unexpected, potentially damaging transients as determined from a review of operational data and a visual inspection of the systems within 6 months following such an event. In addition to satisfying the visual inspection acceptance criteria, freedom-of-motion of mechanical snubbers shall be verified using at least one of the following: (1) manually induced snubber movement; or (2) evaluation of in-place snubber piston setting; or (3) stroking the mechanical snubber through its full range of travel.

SURVEILLANCE REQUIREMENTS (Continued)

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e. Functional Tests

At least once per 18 months during shutdown, at least 10% of the total of each type of snubber shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria of Specification 4.7.8f., an additional 10% of that type of snubber shall be functionally tested until no more failures are found or until all snubbers of that type have been functionally tested.

SURVEILLANCE REQUIREMENTS (Continued)

Testing equipment failure during functional testing may invalidate that day's testing and allow the day's testing to resume anew at a later time provided all snubbers tested with the failed equipment during the day of equipment failure are retested. The representative sample selected for the functional test sample plans shall be randomly selected from the snubbers of each type and reviewed before beginning the testing. The review shall ensure, as far as practicable, that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers of each type. Snubbers placed in the same location as snubbers which failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the sample plan. If during the functional testing, additional sampling is required due to failure of only one type of snubber, the functional test results shall be reviewed at that time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.

f. Functional Test Acceptance Criteria

The snubber functional test shall verify that:

- 1) Activation (restraining action) is achieved within the specified range in both tension and compression;
- 2) Snubber bleed, or release rate where required, is present in both tension and compression, within the specified range;
- 3) For mechanical snubbers the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and
- 4) For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

FIGURE 4.7-1  
(THIS FIGURE NOT USED)

**TABLE 4.7-2**  
**SNUBBER VISUAL INSPECTION INTERVAL**

Population or Category (Notes 1 & 2)	NUMBER OF UNACCEPTABLE SNUBBERS		
	Column A Extend Interval (Notes 3 & 6)	Column B Repeat Interval (Notes 4 & 6)	Column C Reduce Interval (Notes 5 & 6)
1-79	0	0	1
80-99	0	0	2
100-149	0	1	4
150-199	0	3	8
200-299	2	5	13
300-399	5	12	25
400-499	8	18	36
500-599	12	24	48
750-999	20	40	78
1000 or greater	29	56	109

Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that decision as the basis upon which to determine the next inspection interval for that category.

Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.

Note 3: If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval shall be twice the previous interval but not greater than 48 months.

Note 4: If the number of unacceptable snubbers is equal to or less than the number in Column B, but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.



TABLE 4.7-2 (Continued)

NOTATIONS (Continued)

- Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B the next interval shall be reduced proportionally by interpolation. The previous interval shall be reduced by a factor of one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.
- Note 6: The provisions of Specification 4.0.2 are applicable for all inspection intervals up to and including 48 months.

BASES

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SNUBBERS (Continued)

that the frequency of snubber failures and initiating events is constant with time and that the failure of any snubber on that system could cause the system to be unprotected and to result in failure during an initiating event. USNRC Generic Letter 90-09 "Alternate Requirements for Snubber Visual Inspection Intervals and Corrective Actions" provides information necessary to establish a method of extending or shortening the subsequent visual inspection frequency based upon the failure rates from the previous inspection.

The acceptance criteria are to be used in the visual inspection to determine OPERABILITY of the snubbers. For example, if a fluid port of a hydraulic snubber is found to be uncovered, the snubber shall be declared inoperable and shall not be determined OPERABLE via functional testing.

To provide assurance of snubber functional reliability at least 10% of each type of snubber shall be functionally tested at least once per 18 months with an additional 10% tested for each functional testing failure.

Permanent or other exemptions from the surveillance program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and, if applicable, snubber life destructive testing was performed to qualify the snubber for the applicable design conditions at either the completion of their fabrication or at a subsequent date. Snubbers so exempted shall be listed in the list of individual snubbers indicating the extent of the exemptions.

The service life of a snubber is established via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubbers, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life.



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. 48  
License No. NPF-72

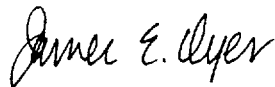
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Commonwealth Edison Company (the licensee) dated August 27, 1993, as supplemented February 21, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (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. 48 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



James E. Dyer, 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 11, 1994



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. 48  
License No. NPF-77

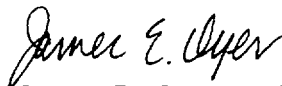
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Commonwealth Edison Company (the licensee) dated August 27, 1993, as supplemented February 21, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (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. 48 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



James E. Dyer, 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 11, 1994

ATTACHMENT TO LICENSE AMENDMENT NOS. 48 AND 48  
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.

<u>Remove Pages</u>	<u>Insert Pages</u>
X	X
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3/4 7-21	3/4 7-21
3/4 7-22	3/4 7-22
3/4 7-23	3/4 7-23
3/4 7-25	3/4 7-25
-	3/4 7-25a
-	3/4 7-25b
B 3/4 7-5	B 3/4 7-5

## LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

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## PLANT SYSTEMS

### 3/4.7.8 SNUBBERS

#### LIMITING CONDITION FOR OPERATION

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3.7.8 All snubbers shall be OPERABLE. Snubbers excluded from this requirement are those installed on nonsafety-related systems and then only if their failure or failure of the system on which they are installed would have no adverse effect on any safety-related system.

APPLICABILITY: MODES 1, 2, 3, and 4. MODES 5 and 6 for snubbers located on systems required OPERABLE in those MODES.

#### ACTION:

With one or more snubbers inoperable, within 72 hours replace or restore the inoperable snubber(s) to OPERABLE status and perform an engineering evaluation per Specification 4.7.8g. on the attached component or declare the attached system inoperable and follow the appropriate ACTION statement for that system.

#### SURVEILLANCE REQUIREMENTS

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4.7.8 Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program and the requirements of Specification 4.0.5.

a. Inspection Types

As used in this specification, type of snubber shall mean snubbers of the same design and manufacturer, irrespective of capacity.

b. Visual Inspections

Snubbers are categorized as inaccessible or accessible during reactor operation. Each of these categories (inaccessible and accessible) may be inspected independently according to the schedule determined by Table 4.7-2. The visual inspection interval for each type shall be determined based upon the criteria provided in Table 4.7-2 and the first inspection interval determined using this criteria shall be based upon the previous inspection interval as established by the requirements in effect prior to amendment.

## PLANT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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#### c. Visual Inspection Acceptance Criteria

Visual inspections shall verify that: (1) there are no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are functional and (3) fasteners for attachment of the snubber to the component and to the snubber anchorage are functional. Snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified acceptable for the purpose of establishing the next visual inspection interval, provided that: (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of type that may be generically susceptible; and (2) the affected snubber is functionally tested in the as-found condition and determined OPERABLE per Specification 4.7.8f. All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as unacceptable for determining the next inspection interval. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the ACTION requirements shall be met.

#### d. Transient Event Inspection

An inspection shall be performed of all snubbers attached to sections of systems that have experienced unexpected, potentially damaging transients as determined from a review of operational data and a visual inspection of the systems within 6 months following such an event. In addition to satisfying the visual inspection acceptance criteria, freedom-of-motion of mechanical snubbers shall be verified using at least one of the following: (1) manually induced snubber movement; or (2) evaluation of in-place snubber piston setting; or (3) stroking the mechanical snubber through its full range of travel.

## PLANT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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#### e. Functional Tests

At least once per 18 months during shutdown, at least 10% of the total of each type of snubber shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria of Specification 4.7.8f., an additional 10% of that type of snubber shall be functionally tested until no more failures are found or until all snubbers of that type have been functionally tested.

## PLANT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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Testing equipment failure during functional testing may invalidate that day's testing and allow the day's testing to resume anew at a later time provided all snubbers tested with the failed equipment during the day of equipment failure are retested. The representative sample selected for the functional test sample plans shall be randomly selected from the snubbers of each type and reviewed before beginning the testing. The review shall ensure, as far as practicable, that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers of each type. Snubbers placed in the same location as snubbers which failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the sample plan. If during the functional testing, additional sampling is required due to failure of only one type of snubber, the functional test results shall be reviewed at that time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.

#### f. Functional Test Acceptance Criteria

The snubber functional test shall verify that:

- 1) Activation (restraining action) is achieved within the specified range in both tension and compression;
- 2) Snubber bleed, or release rate where required, is present in both tension and compression, within the specified range;
- 3) For mechanical snubbers the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and
- 4) For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

FIGURE 4.7-1  
(THIS FIGURE NOT USED)

**TABLE 4.7-2**  
**SNUBBER VISUAL INSPECTION INTERVAL**

Population or Category (Notes 1 & 2)	<u>NUMBER OF UNACCEPTABLE SNUBBERS</u>		
	Column A Extend Interval (Notes 3 & 6)	Column B Repeat Interval (Notes 4 & 6)	Column C Reduce Interval (Notes 5 & 6)
1-79	0	0	1
80-99	0	0	2
100-149	0	1	4
150-199	0	3	8
200-299	2	5	13
300-399	5	12	25
400-499	8	18	36
500-599	12	24	48
750-999	20	40	78
1000 or greater	29	56	109

Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that decision as the basis upon which to determine the next inspection interval for that category.

Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.

Note 3: If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval shall be twice the previous interval but not greater than 48 months.

Note 4: If the number of unacceptable snubbers is equal to or less than the number in Column B, but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.

TABLE 4.7-2 (Continued)

NOTATIONS (Continued)

- Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.
- Note 6: The provisions of Specification 4.0.2 are applicable for all inspection intervals up to and including 48 months.

## PLANT SYSTEMS

### BASES

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#### SNUBBERS (Continued)

The visual inspection frequency is based upon maintaining a constant level of snubber protection during an earthquake or severe transient. Therefore, the required inspection interval varies inversely with the observed snubber failures on a given type and is determined by the number of inoperable snubbers found during an inspection of each type. In order to establish the inspection frequency for each type of snubber on a safety-related system, it was assumed that the frequency of snubber failures and initiating events is constant with time and that the failure of any snubber on that system could cause the system to be unprotected and to result in failure during an initiating event. USNRC Generic Letter 90-09 "Alternate Requirements for Snubber Visual Inspection Intervals and Corrective Actions" provides information necessary to establish a method of extending or shortening the subsequent visual inspection frequency based upon the failure rates from the previous inspection.

The acceptance criteria are to be used in the visual inspection to determine OPERABILITY of the snubbers. For example, if a fluid port of a hydraulic snubber is found to be uncovered, the snubber shall be declared inoperable and shall not be determined OPERABLE via functional testing.

To provide assurance of snubber functional reliability at least 10% of each type of snubber shall be functionally tested at least once per 18 months with an additional 10% tested for each functional testing failure.

Permanent or other exemptions from the surveillance program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and, if applicable, snubber life destructive testing was performed to qualify the snubber for the applicable design conditions at either the completion of their fabrication or at a subsequent date. Snubbers so exempted shall be listed in the list of individual snubbers indicating the extent of the exemptions.

The service life of a snubber is established via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubbers, seal replaced, spring replaced, in high radiation area, in high temperature area,





UNITED STATES  
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WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 60 TO FACILITY OPERATING LICENSE NO. NPF-37,  
AMENDMENT NO. 60 TO FACILITY OPERATING LICENSE NO. NPF-66,  
AMENDMENT NO. 48 TO FACILITY OPERATING LICENSE NO. NPF-72,  
AND AMENDMENT NO. 48 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

By letter dated August 27, 1993, as supplemented February 21, 1994, Commonwealth Edison Company (CECo or the licensee) proposed changes to the Technical Specifications (TS) for Byron Station, Units 1 and 2, and Braidwood Station, Units 1 and 2. It proposed to remove the snubber visual examination schedule in the existing Technical Specifications and replace it with a refueling outage based visual examination schedule, Table 1 of the Generic Letter (GL) 90-09 dated December 11, 1990, to all holders of operating licenses or construction permits for nuclear power reactors. Additional information was provided by letter dated February 21, 1994, which did not change the original no significant hazards consideration determination.

2.0 EVALUATION

The snubber visual examination schedule in the existing TS is based on the permissible number of inoperable snubbers found during the visual examination. Because the existing snubber visual examination schedule is based only on the absolute number of inoperable snubbers found during the visual examinations irrespective of the total population of snubbers, licensees with a large snubber population have found the visual examination schedule excessively restrictive. The purpose of the alternative visual examination schedule is to allow the licensee to perform visual examinations and corrective actions during plant outages without reduction of the confidence level provided by the existing visual examination schedule. The new visual examination schedule specifies the permissible number of inoperable snubbers for various snubber populations. The basic examination interval is the normal fuel cycle up to 24 months. This interval may be extended to as long as twice the fuel cycle, or reduced to as small as two-thirds of the fuel cycle depending on the number of unacceptable snubbers found during the visual examination. The examination interval may vary by  $\pm 25$  percent to coincide with the actual outage.

In the event one or more snubbers are found to be inoperable during a visual examination, the Limiting Conditions for Operation (LCO) in the present TS require the licensee to restore or replace the inoperable snubber(s) to operable status within 72 hours or declare the attached system inoperable and follow the appropriate action statement for that system. This LCO will remain in the TS, however the permissible number of inoperable snubber(s) and the subsequent visual examination interval will now be determined in accordance with the new visual examination schedule. As noted in the guidance for this line item TS improvement, certain corrective actions may have to be performed depending on the number of inoperable snubbers found. All requirements, for corrective action and evaluations associated with the use of visual examination schedule and stated in footnotes 1 thru 7, (Table 1 of GL 90-09) shall be included in the TS.

The licensee has proposed changes to the TS that are consistent with the guidance provided in GL 90-09 for the replacement of the snubber visual examination schedule with Table 1 (including footnotes 1 thru 7) of GL 90-09. On the basis of its review of this matter, the staff finds that the proposed changes are acceptable.

Currently, TS 4.7.8.e provides three options for selection of sample size for snubber functional testing. The licensee has elected to use only the one that requires an initial 10% of the total number of each type of snubber. For all snubbers that do not meet the acceptance criteria, an additional 10% will be tested until no more failures are found or until all snubbers of that type have been functionally tested. Because the staff considers any of the three methods to be adequate for functional testing, the staff finds removal of two of the options from the TS to be acceptable.

The licensee also proposed the removal of an obsolete footnote related to TS 4.7.8.e for Byron. The footnote required that the visual inspection of inaccessible snubbers be completed by January 24, 1990. The licensee stated that the inspection was performed and that the footnote is no longer needed. The staff finds removal of the footnote to be 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 (59 FR 4935). 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: J. Rajan

Date: March 11, 1994