

March 2, 1995

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

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SUBJECT: ISSUANCE OF AMENDMENTS (TAC NOS. M87752, M87753, M87754 AND M87755)

Dear Mr. Farrar:

The U.S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment No. 70 to Facility Operating License No. NPF-37 and Amendment No. 70 to Facility Operating License No. NPF-66 for the Byron Station, Unit Nos. 1 and 2, respectively, and Amendment No. 61 to Facility Operating License No. NPF-72 and Amendment No. 61 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 31, 1993, as supplemented on July 19, 1994.

The amendments revise the technical specifications by increasing the allowed outage time for an inoperable control room chiller only in MODES 1 through 4, adding an optional ACTION statement in MODES 5 and 6, and adding a surveillance requirement for the control room ventilation system.

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
Office of Nuclear Reactor Regulation

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

- Enclosures:
1. Amendment No. 70 to NPF-37
 2. Amendment No. 70 to NPF-66
 3. Amendment No. 61 to NPF-72
 4. Amendment No. 61 to NPF-77
 5. Safety Evaluation

cc w/encls: see next page

DOCUMENT NAME: G:\CMRCJR\BRAID-BY\BB87752.AMD

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DFO

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George F. Dick, Jr., Project Manager
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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. 70 to NPF-37
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cc w/encls: see next page

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DATE	2/23/95	2/22/95	2/22/95	2/23/95	2/23/95	3/02/95

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

March 2, 1995

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. M87752, M87753, M87754 AND M87755)

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The amendments revise the technical specifications by increasing the allowed outage time for an inoperable control room chiller only in MODES 1 through 4, adding an optional ACTION statement in MODES 5 and 6, and adding a surveillance requirement for the control room ventilation system.

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Sincerely,

George F. Dick, Jr., 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. 70 to NPF-37
2. Amendment No. 70 to NPF-66
3. Amendment No. 61 to NPF-72
4. Amendment No. 61 to NPF-77
5. Safety Evaluation

cc w/encls: see next page

D. L. Farrar
Commonwealth Edison Company

cc:

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

Byron/Braidwood Power Stations

U.S. Nuclear Regulatory Commission
Byron/Resident Inspectors Office
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Illinois Dept. of Nuclear Safety
Office of Nuclear Facility Safety
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Springfield, Illinois 62704

Commonwealth Edison Company
Braidwood Station Manager
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Chairman, Ogle County Board
Post Office Box 357
Oregon, Illinois 61061



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. 70
License No. NPF-37

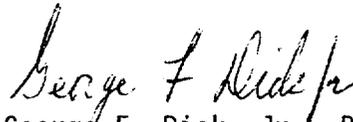
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Commonwealth Edison Company (the licensee) dated August 31, 1993, as supplemented on July 19, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the 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:

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 70 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, Jr., 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 3, 1995



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. 70
License No. NPF-66

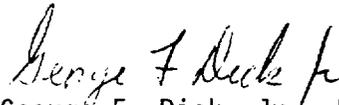
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Commonwealth Edison Company (the licensee) dated August 31, 1993, as supplemented on July 19, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the 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. 70 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, Jr., 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 2, 1995

ATTACHMENT TO LICENSE AMENDMENT NOS. 70 AND 70

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 7-16

3/4 7-18

B 3/4 7-5

B 3/4 7-6

Insert Pages

3/4 7-16

3/4 7-18

B 3/4 7-5

B 3/4 7-6

PLANT SYSTEMS

3/4.7.6 CONTROL ROOM VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.6 Two independent Control Room Ventilation Systems shall be OPERABLE.

APPLICABILITY: ALL MODES.

ACTION:

MODES 1, 2, 3 and 4:

- a. With one Control Room Ventilation System inoperable due to an inoperable chiller unit, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one Control Room Ventilation System inoperable for reasons other than an inoperable chiller unit, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

MODES 5 and 6:

- a. With one Control Room Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7 days or either 1) initiate and maintain operation of the remaining OPERABLE Control Room Ventilation System in the makeup mode or 2) suspend CORE ALTERATIONS, positive reactivity additions and movement of irradiated fuel.
- b. With both Control Room Ventilation Systems inoperable, or with the OPERABLE Control Room Ventilation System, required to be in the makeup mode by ACTION a. not capable of being powered by an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS, positive reactivity additions, or movement of irradiated fuel.

SURVEILLANCE REQUIREMENTS

4.7.6 Each Control Room Ventilation System shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the control room air temperature is less than or equal to 90°F;
- b. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the Emergency Makeup System HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 continuous hours with the heaters operating; and flow through the recirculation charcoal adsorber for 15 minutes.
- c. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the Emergency Makeup System filter plenum by:
 - 1) Verifying that the cleanup system satisfies the in-place penetration testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 6000 cfm ± 10% for the Emergency Makeup System;

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- f. After each complete or partial replacement of a HEPA filter bank, by verifying that the cleanup system satisfies the in-place penetration testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a DOP test aerosol while operating the Emergency Makeup System at a flow rate of 6000 cfm \pm 10%; and
- g. After each complete or partial replacement of a charcoal adsorber bank in the Emergency Makeup System by verifying that the cleanup system satisfies the in-place penetration testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 6000 cfm \pm 10%.
- h. At least once per 18 months or (1) after any structural maintenance on the charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the recirculation charcoal adsorber by:
 - (1) Verifying that the recirculation charcoal adsorber satisfies the in-place penetration testing acceptance criteria of less than 2% total bypass and uses the test procedure guidance in Regulatory Positions C.5.a, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 49,500 cfm \pm 10% for the recirculation charcoal adsorber;
 - (2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample from the recirculation charcoal adsorber obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1% when tested at a temperature of 30°C and a relative humidity of 70%; and
 - (3) Verifying a system flow rate of 49,500 cfm \pm 10% for the Recirculation Charcoal Adsorber when tested in accordance with ANSI N510-1980.
- i. After each complete or partial replacement of a charcoal adsorber bank in the Recirculation Charcoal Adsorber System by verifying that the cleanup system satisfies the in-place penetration testing acceptance criteria of less than 0.1% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating at a system flowrate of 49,500 cfm \pm 10%.
- j. After every 720 hours of Recirculation Charcoal Adsorber operation by verifying within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978 meets the laboratory testing criteria of Regulatory Guide 1.52, Revision 2, March 1978 for a methyl iodide penetration of less than 1% when tested at a temperature of 30°C and a relative humidity of 70%.
- k. At least once per 18 months, by verifying that each Control Room Ventilation System has the capability to remove the required heat load.

PLANT SYSTEMS

BASES

CONTROL ROOM VENTILATION SYSTEM (Continued)

design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 rem or less whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criterion 19 of Appendix A, 10 CFR Part 50. ANSI N510-1980 will be used as a procedural guide for surveillance testing.

The surveillance requirement to verify that each control room ventilation system has the capability to remove the required heat load, as determined by the original heat capacity verification test, consists of a combination of testing and calculations. The 18-month frequency is appropriate since significant degradation of the control room ventilation system is slow and not expected over this time period.

3/4.7.7 NON-ACCESSIBLE AREA EXHAUST FILTER PLENUM VENTILATION SYSTEM

The OPERABILITY of the Non-Accessible Area Exhaust Filter Plenum Ventilation System ensures that radioactive materials leaking from the ECCS equipment within the pump rooms following a LOCA are filtered prior to reaching the environment. The operation of this system and the resultant effect on offsite dosage calculations was assumed in the safety analyses. ANSI N510-1980 will be used as a procedural guide for surveillance testing.

3/4.7.8 SNUBBERS

All snubbers are required OPERABLE to ensure that the structural integrity of the Reactor Coolant System and all other safety-related systems is maintained during and following a seismic or other event initiating dynamic loads.

Snubbers are classified and grouped by design and manufacturer but not by size. For example, mechanical snubbers utilizing the same design features of the 2-kip, 10-kip, and 100-kip capacity manufactured by Company "A" are of the same type. The same design mechanical snubbers manufactured by Company "B" for the purposes of this specification would be of a different type, as would hydraulic snubbers from either manufacturer.

A list of individual snubbers with detailed information of snubber location and size and of systems affected shall be available at the plant in accordance with Section 50.71(c) of 10 CFR Part 50. The accessibility of each snubber shall be determined and approved by the Onsite Review and Investigative Function. The determination shall be based upon the existing radiation levels and the expected time to perform a visual inspection in each snubber location as well as other factors associated with accessibility during plant operations (e.g., temperature, atmosphere, location, etc.), and the recommendations of Regulatory Guides 8.8 and 8.10. The addition or deletion of any hydraulic or mechanical snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

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

PLANT SYSTEMS

BASES

SNUBBERS (Continued)

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, 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. 61
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 31, 1993, as supplemented on July 19, 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. 61 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 2, 1995



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. 61
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 31, 1993, as supplemented on July 19, 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. 61 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 2, 1995

ATTACHMENT TO LICENSE AMENDMENT NOS. 61 AND 61
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. Pages marked with an asterisk are provided for convenience only.

<u>Remove Pages</u>	<u>Insert Pages</u>
*3/4 7-13	*3/4 7-13
3/4 7-14	3/4 7-14
3/4 7-16a	3/4 7-16a
*B 3/4 7-3	* B 3/4 7-3
B 3/4 7-4	B 3/4 7-4
B 3/4 7-5	B 3/4 7-5

PLANT SYSTEMS

3/4.7.5 ULTIMATE HEAT SINK (Essential Service Cooling Pond)

LIMITING CONDITION FOR OPERATION

3.7.5 The essential service cooling pond (ESCP) shall be OPERABLE with:

- a. A minimum water level at or above elevation 590 ft. Mean Sea Level, USGS datum, and
- b. An essential service water pump discharge water temperature of less than or equal to 98°F.

APPLICABILITY: MODES 1, 2, 3, and 4

ACTION:

With the requirements of the above specification not satisfied, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.5.1. The ESCP shall be determined OPERABLE at least once per 24 hours by verifying the average water temperature and water level to be within their limits.

4.7.5.2 The ESCP shall be determined OPERABLE at least once per 18 months by the performance of a hydrographic survey to verify:

- a. That the ESCP bottom elevation is less than or equal to 584 feet.
- b. That the ESCP slopes exhibit no excess degradation.

PLANT SYSTEMS

3/4.7.6 CONTROL ROOM VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.6 Two independent Control Room Ventilation Systems shall be OPERABLE.

APPLICABILITY: ALL MODES.

ACTION:

MODES 1, 2, 3 and 4:

- a. With one Control Room Ventilation System inoperable due to an inoperable chiller unit, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one Control Room Ventilation System inoperable for reasons other than an inoperable chiller unit, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

MODES 5 and 6:

- a. With one Control Room Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7 days or either 1) initiate and maintain operation of the remaining OPERABLE Control Room Ventilation System in the makeup mode or 2) suspend CORE ALTERATIONS, positive reactivity additions and movement of irradiated fuel.
- b. With both Control Room Ventilation Systems inoperable, or with the OPERABLE Control Room Ventilation System, required to be in the makeup mode by ACTION a. not capable of being powered by an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS, positive reactivity additions, or movement of irradiated fuel.

SURVEILLANCE REQUIREMENTS

4.7.6 Each Control Room Ventilation System shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the control room air temperature is less than or equal to 90°F;
- b. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the Emergency Makeup System HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 continuous hours with the heaters operating; and flow through the recirculation charcoal adsorber for 15 minutes.
- c. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the Emergency Makeup System filter plenum by:
 - 1) Verifying that the cleanup system satisfies the in-place penetration testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 6000 cfm \pm 10% for the Emergency Makeup System;

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978 meets the laboratory testing criteria of Regulatory Guide 1.52, Revision 2, March 1978 for a methyl iodide penetration of less than 1% when tested at a temperature of 30°C and a relative humidity of 70%.

- k. At least once per 18 months, by verifying that each Control Room Ventilation System has the capability to remove the required heat load.

PLANT SYSTEMS

BASES

3/4.7.1.5 MAIN STEAM LINE ISOLATION VALVES

The OPERABILITY of the main steam line isolation valves ensures that no more than one steam generator will blowdown in the event of a steam line rupture. This restriction is required to: (1) minimize the positive reactivity effects of the Reactor Coolant System cooldown associated with the blowdown, and (2) limit the pressure rise within containment in the event the steam line rupture occurs within containment. The OPERABILITY of the main steam isolation valves within the closure times of the Surveillance Requirements are consistent with the assumptions used in the safety analyses.

3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

The limitation on steam generator pressure and temperature ensures that the pressure-induced stresses in the steam generators do not exceed the maximum allowable fracture toughness stress limits. The limitations of 70°F and 200 psig are based on a steam generator RT_{NDT} of 60°F and are sufficient to prevent brittle fracture.

3/4.7.3 COMPONENT COOLING WATER SYSTEM

The OPERABILITY of the Component Cooling Water System ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the safety analyses.

3/4.7.4 ESSENTIAL SERVICE WATER SYSTEM

The OPERABILITY of the Essential Service Water System ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the accident conditions within acceptable limits.

3/4.7.5 ULTIMATE HEAT SINK

The limitations on the ultimate heat sink level and temperature ensure that sufficient cooling capacity is available to either 1) provide normal cooldown of the facility, or 2) to mitigate the effects of accident conditions within acceptable limits.

The limitations on minimum water level and maximum temperature are based on providing a 30-day cooling water supply to safety related equipment without exceeding their design basis temperature and is consistent with the recommendations of Regulatory Guide 1.27, "Ultimate Heat Sink for Nuclear Plants," March 1974.

BASES

3/4.7.6 CONTROL ROOM VENTILATION SYSTEM

The OPERABILITY of the Control Room Ventilation System ensures that: (1) the ambient air temperature does not exceed the allowable temperature for continuous duty rating for the equipment and instrumentation cooled by this system, and (2) the control room will remain habitable for operations personnel during and following all credible accident conditions. Operation of the system with the heaters operating for at least 10 continuous hours in a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 rem or less whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criterion 19 of Appendix A, 10 CFR Part 50. ANSI N510-1980 will be used as a procedural guide for surveillance testing.

The surveillance requirement to verify that each control room ventilation system has the capability to remove the required heat load, as determined by the original heat capacity verification test, consists of a combination of testing and calculations. The 18-month frequency is appropriate since significant degradation of the control room ventilation system is slow and not expected over this time period.

3/4.7.7 NON-ACCESSIBLE AREA EXHAUST FILTER PLENUM VENTILATION SYSTEM

The OPERABILITY of the Non-Accessible Area Exhaust Filter Plenum Ventilation System ensures that radioactive materials leaking from the ECCS equipment within the pump rooms following a LOCA are filtered prior to reaching the environment. The operation of this system and the resultant effect on offsite dosage calculations was assumed in the safety analyses. ANSI N510-1980 will be used as a procedural guide for surveillance testing.

3/4.7.8 SNUBBERS

All snubbers are required OPERABLE to ensure that the structural integrity of the Reactor Coolant System and all other safety-related systems is maintained during and following a seismic or other event initiating dynamic loads.

Snubbers are classified and grouped by design and manufacturer but not by size. For example, mechanical snubbers utilizing the same design features of the 2-kip, 10-kip, and 100-kip capacity manufactured by Company "A" are of the same type. The same design mechanical snubbers manufactured by Company "B" for the purposes of this specification would be of a different type, as would hydraulic snubbers from either manufacturer.

A list of individual snubbers with detailed information of snubber location and size and of systems affected shall be available at the plant in accordance with Section 50.71(c) of 10 CFR Part 50. The accessibility of each snubber shall be determined and approved by the Onsite Review and Investigative Function. The determination shall be based upon the existing radiation levels and the expected time to perform a visual inspection in each snubber location

PLANT SYSTEMS

BASES

SNUBBERS (Continued)

as well as other factors associated with accessibility during plant operations (e.g., temperature, atmosphere, location etc.), and the recommendations of Regulatory Guides 8.8 and 8.10. The addition or deletion of any hydraulic or mechanical snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 70 TO FACILITY OPERATING LICENSE NO. NPF-37,
AMENDMENT NO. 70 TO FACILITY OPERATING LICENSE NO. NPF-66,
AMENDMENT NO. 61 TO FACILITY OPERATING LICENSE NO. NPF-72,
AND AMENDMENT NO. 61 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 31, 1993, Commonwealth Edison Company (ComEd, the licensee) requested a change to the technical specifications (TSs) and associated Bases pages for Byron Station, Units 1 and 2, and Braidwood Station, Units 1 and 2, regarding operation of the control room ventilation system (VC). The proposed changes would add an ACTION to the limiting condition for operation (LCO) permitting 30 days to restore one train of VC that is inoperable if it is only due to an inoperable chiller unit. If a train of VC becomes inoperable for other reasons, the allowed outage time (AOT) will remain at seven days.

The change would also add an option to the LCO for MODES 5 and 6 to permit cessation of core alterations, positive reactivity additions, and movement of irradiated fuel instead of placing the operable train of VC in makeup mode. Also the changes add a restriction to an LCO to suspend movement of irradiated fuel if both trains of VC are inoperable in MODES 5 and 6.

In its submittal of July 19, 1994, the licensee proposed to add a surveillance requirement to demonstrate that each VC is operable.

The operability of the VC ensures that the ambient air temperature does not exceed the maximum allowable air temperature for equipment and instrumentation in the control room. In addition, the VC must be capable of maintaining the control room habitable for operating personnel during and following all credible accident scenarios. Operation of the VC must limit radiation exposure to personnel in the control room to less than five rem whole body in accordance with 10 CFR Part 50, Appendix A, General Design Criteria 19. The system is designed such that either of two independent 100 percent capacity trains can provide these functions.

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2.0 EVALUATION

The ACTION statement for the emergency filtration/pressurization functions while in MODES 1, 2, 3, and 4 remains unchanged in the proposed revision. For the cooling function (chiller unit only inoperable), an ACTION statement is added to permit an allowed outage time of 30 days. During the time the chiller is inoperable, the redundant train is capable of handling the heat loads during normal operation as well as during accident scenarios. The 30 days is acceptable because it takes into account the fact that if a chiller is lost from a single operable train, temperature changes are gradual, depending upon the outside temperature, and time is available for manual actions that can alleviate the loss of a chiller. Byron and Braidwood each have two independent 100 percent capacity trains. Therefore, the AOT for the loss of one chiller should be longer than the AOT for the remainder of the VC since, unlike the loss of a chiller, there are no actions that can be taken to effectively alleviate the conditions from a loss of all filtration/pressurization capability following a loss-of-cooling accident. The 30 day AOT is consistent with the Westinghouse Standard Technical Specifications (NUREG-1431).

The additional requirement for MODES 5 and 6 to immediately suspend activities that present a potential for releasing radioactivity that might require isolation of the control room, adds a new alternative ACTION which may be taken. The new alternative is to suspend core alterations, positive reactivity additions and movement of irradiated fuel. This is an acceptable alternative because the function of the VC during these MODES is to protect against a fuel handling accident. For two VC trains inoperable or if the only operable VC train can not be powered by an operable emergency power supply, the ACTION statement has been changed to add a requirement to suspend movement of irradiated fuel.

The licensee has added a requirement for a VC surveillance each 18 months. The surveillance, a combination of testing and calculations, is designed to verify that each VC system has the capability to remove the required heat load as determined by the original heat capacity verification tests. The proposed surveillance is consistent with NUREG-1431.

Based on its evaluation as described above, the staff concludes the changes provide more flexibility and add a level of safety with the surveillance requirement for testing the cooling function of the system. The staff, therefore, concludes that the changes to the TSs are acceptable.

The amendment also removes an obsolete footnote from the Braidwood TSs. The footnote stated that TS 3.6.1 was not applicable prior to initial criticality on Cycle 1.

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 and change surveillance requirements. 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 (60 FR 4932). 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: G. Dick

Date: March 2, 1995