

Docket No. STN 50-455

January 30, 1987

Mr. Dennis L. Farrar
Director of Nuclear Licensing
Commonwealth Edison Company
P.O. Box 767
Chicago, Illinois 60690

Dear Mr. Farrar:

SUBJECT: ISSUANCE OF FACILITY OPERATING LICENSE NPF-66
BYRON STATION, UNIT 2

The U. S. Nuclear Regulatory Commission (NRC) has issued the enclosed Facility Operating License NPF-66 for Byron Station, Unit 2. Based upon the findings of the Commission as reflected in the enclosed license and the favorable vote by the Commission on full-power operation, License No. NPF-66 authorizes operation of Byron Station, Unit 2 at reactor power levels not in excess of 3411 megawatts thermal (100% rated power) and supersedes License No. NPF-60, issued on November 6, 1986.

Enclosed is a copy of a related notice, the original of which has been forwarded to the Office of the Federal Register for publication.

Two copies of Amendment No. 6 to Indemnity Agreement No. B-97 which covers the activities authorized under License No. NPF- are also enclosed. Please return one signed copy to this office.

Safety Evaluation Report Supplement No. 8 (SSER 8) was prepared in support of issuing the enclosed license. Enclosed is a pre-printed copy of SSER 8. Twenty (20) bound copies of SSER 8 will be sent to you in the near future.

Sincerely,

Thomas M. Novak, Acting Director
Division of PWR Licensing-A
Office of Nuclear Reactor Regulation

8702130376 870130
PDR ADOCK 05000455
PDR

Enclosures:

1. Facility Operating License NPF-66
2. Federal Register Notice
3. Amendment No. 6 to Indemnity Agreement No. B-97
4. Supplement No. 8 to the Safety Evaluation Report

cc: See next page
* SEE PREVIOUS CONCURRENCE

PD#3
CVogan*
01/28/87

PD#3
LOlshan*
01/29/87

SP
IDinitz*
01/29/87

OGC
SLewis*
01/29/87

A/D: PWR-A
TNovak
1/30/87

NRR
HDenton
1/30/87

Docket No. STN 50-455

Mr. Dennis L. Farrar
Director of Nuclear Licensing
Commonwealth Edison Company
P.O. Box 767
Chicago, Illinois 60690

Dear Mr. Farrar:

SUBJECT: ISSUANCE OF FACILITY OPERATING LICENSE NPF-66
BYRON STATION, UNIT 2

The U. S. Nuclear Regulatory Commission (NRC) has issued the enclosed Facility Operating License NPF-60 Byron Station, Unit 2. Based upon the findings of the Commission as reflected in the enclosed license and the favorable vote by the Commission on full-power operation, License No. NPF- authorizes operation of Byron Station, Unit 2 at reactor power levels not in excess of 3411 megawatts thermal (100% rated power) and supersedes License No. NPF-60, issued on November 6, 1986.

Enclosed is a copy of a related notice, the original of which has been forwarded to the Office of the Federal Register for publication.

Two copies of Amendment No. 5 to Indemnity Agreement No. B-97 which covers the activities authorized under License No. NPF- are also enclosed. Please return one signed copy to this office.

Safety Evaluation Report Supplement No. 8 (SSER 8) was prepared in support of issuing the enclosed license. Enclosed is a pre-printed copy of SSER 8. Twenty (20) bound copies of SSER 8 will be sent to you in the near future.

Sincerely,

Thomas M. Novak, Acting Director
Division of PWR Licensing-A
Office of Nuclear Reactor Regulation

Enclosures:

1. Facility Operating License NPF-
2. Federal Register Notice
3. Amendment No. 5 to Indemnity Agreement No. B-97
4. Supplement No. 8 to the Safety Evaluation Report

cc: See next page

PD#3
CVogon
1/26/87

PD#3
LOlshan
1/29/87

SP
ID
1/29/87

OGC
SLewis
1/29/87

PD#3
SVarga
1/29/87

A/D:PWR-A
TNovak
1/29/87

NRR
HDenton
1/29/87

Mr. Dennis L. Farrar
Commonwealth Edison Company

Byron Station
Units 1 and 2

cc:

Mr. William Kortier
Atomic Power Distribution
Westinghouse Electric Corporation
Post Office Box 355
Pittsburgh, Pennsylvania 15230

Michael Miller
Isham, Lincoln & Beale
One First National Plaza
42nd Floor
Chicago, Illinois 60603

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

Dr. Bruce von Zellen
Department of Biological Sciences
Northern Illinois University
DeKalb, Illinois 61107

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

Mr. Julian Hinds
U. S. Nuclear Regulatory Commission
Byron/Resident Inspectors Offices
4448 German Church Road
Byron, Illinois 61010

Mr. Michael C. Parker, Chief
Division of Engineering
Illinois Department of
Nuclear Safety
1035 Outer Park Drive
Springfield, Illinois 62704

Ms. Diane Chavez
528 Gregory Street
Rockford, Illinois 61108

Regional Administrator, Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Joseph Gallo, Esq.
Isham, Lincoln & Beale
Suite 1100
1150 Connecticut Avenue, N.W.
Washington, D. C. 20036

Douglass Cassel, Esq.
109 N. Dearborn Street
Suite 1300
Chicago, Illinois 60602

Ms. Pat Morrison
5568 Thunderidge Drive
Rockford, Illinois 61107

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



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

COMMONWEALTH EDISON COMPANY
DOCKET NO. STN 50-455
BYRON STATION, UNIT 2
FACILITY OPERATING LICENSE

License No. NPF-66

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application for a license filed by Commonwealth Edison Company (the licensee) complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I, and all required notifications to other agencies or bodies have been duly made;
 - B. Construction of Byron Station, Unit 2 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-131 and the application, as amended, the provisions of the Act and the regulations of the Commission;
 - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission (except as exempted from compliance in Section 2.D. below);
 - D. There is reasonable assurance: (i) that the activities authorized by this operating license 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 set forth in 10 CFR Chapter I (except as exempted from compliance in Section 2.D. below);
 - E. Commonwealth Edison Company is technically qualified to engage in the activities authorized by this license in accordance with the Commission's regulations set forth in 10 CFR Chapter I;
 - F. Commonwealth Edison Company has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;

8702130390 870130
PDR ADDCK 05000455
P PDR

- G. The issuance of this license will not be inimical to the common defense and security or to the health and safety of the public;
 - H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of Facility Operating License No. NPF-66, subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B to License No. NPF-37, issued February 14, 1985, is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
 - I. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70.
2. Based on the foregoing findings regarding this facility, Facility Operating License No. NPF-66 is hereby issued to Commonwealth Edison Company (the licensee) to read as follows:
- A. This license applies to Byron Station, Unit 2, a pressurized water reactor, and associated equipment (the facility) owned by Commonwealth Edison Company. The facility is located in north central Illinois within Rockvale Township, Ogle County, Illinois and is described in the Byron/Braidwood Station's Final Safety Analysis Report, as supplemented and amended, and in the licensee's Environmental Report, as supplemented and amended.
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) Commonwealth Edison Company (CECo), pursuant to Section 103 of the Act and 10 CFR Part 50, to possess, use and operate the facility at the designated location in Ogle County, Illinois, in accordance with the procedures and limitations set forth in this license;
 - (2) CECo, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;
 - (3) CECo, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

- (4) CECO, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
 - (5) CECO, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) Maximum Power Level

The licensee is authorized to operate the facility at reactor core power levels not in excess of 3411 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein. The items identified in Attachment 1 to this license shall be completed as specified. Attachment 1 is hereby incorporated into this license.
 - (2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A (NUREG-1113), as revised through Amendment No. 5 and revised by Attachment 2 to NPF-60, and the Environmental Protection Plan contained in Appendix B, both of which were attached to License No. NPF-37, dated February 14, 1985, are hereby incorporated into this license. Attachment 2 contains a revision to Appendix A which is hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.
 - (3) Initial Test Program

Any changes to the Initial Startup Test Program described in Chapter 14 of the FSAR made in accordance with the provisions of 10 CFR 50.59 shall be reported in accordance with 50.59(b) within one month of such change.
 - (4) Regulatory Guide 1.97, Revision 2 Compliance

The licensee shall submit by March 1, 1987, a preliminary report describing how the requirements of Regulatory Guide 1.97, Revision 2 have been or will be met. The licensee shall submit by September 1, 1987, the final report and a schedule for implementation (assuming the NRC approves the DCRDR by March 1, 1987).

- D. The facility requires an exemption from the requirements of Appendix J to 10 CFR Part 50, Paragraph III.D.2(b)(ii) of the testing of containment air locks at times when containment integrity is not required (SER Section 6.2.6).

This exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. This exemption is hereby granted. The special circumstances regarding the exemption are identified in the referenced section of the safety evaluation report and the supplements thereto. This exemption is granted pursuant to 10 CFR 50.12 (51 FR 37096 dated October 17, 1986). With this exemption, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.

An exemption was previously granted pursuant to 10 CFR 70.24. The exemption was granted with NRC materials license No. SNM-1916, issued March 4, 1985, and relieved the licensee from the requirement of having a criticality alarm system. Therefore, the licensee is exempted from the criticality alarm system provision of 10 CFR 70.24 so far as this section applies to the storage of fuel assemblies held under this license.

- E. The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the licensee's Fire Protection Report through Amendment 8 and the licensee's letters dated September 23, 1986, October 23, 1986, November 3, 1986, December 12 and 15, 1986, and January 21, 1987, and as approved in the SER dated February 1982 through Supplement No. 8, subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

- F. The licensee shall fully implement and maintain in effect all provisions of the physical security, guard training and qualification, and safeguards contingency plans previously approved by the Commission and all amendments and revisions to such plans made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Commonwealth Edison Company Byron Nuclear Power Station Physical Security Plan, Security Personnel Training and Qualification Plan, and Safeguards Contingency Plan"* with revisions submitted through December 9, 1986.

- G. Except as otherwise provided in the Technical Specifications or Environmental Protection Plan, the licensee shall report any violations of the requirements contained in Section 2.C of this license in the following manner: initial notification shall be made within 24 hours to the NRC Operations Center via the Emergency Notification System with written followup within thirty days in accordance with the procedures described in 10 CFR 50.73(b), (c), and (e).
- H. The licensee shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.
- I. This license is effective as of the date of issuance and shall expire at midnight on November 6, 2026.

FOR THE NUCLEAR REGULATORY COMMISSION

151

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Attachments:

- 1. Work Items to be completed
- 2. Revision to Appendix A - Technical Specifications (NUREG-1113)

Date of Issuance: January 30, 1987

PD#3 LOlshan* 1/29/87	PD#3 CVogan 1/28/87	RAB WLambe 1/29/87	SP IDinitz 1/29/87	SP [Signature] 1/29/87	OGC Rutberg 1/29/87
OGC SLewis 1/29/87	Conurrence provided. OGC per [Signature] JScinto 1/29/87	PD#3 SVarga 1/29/87	A/D: PWR-A TNovak 1/30/87	NRR RVollmer 1/30/87	NRR HDenton 1/30/87

ATTACHMENT 1 TO BYRON STATION UNIT 2 OPERATING LICENSE NPF-66

This attachment identifies specific items which must be completed to the Commission's satisfaction in accordance with the operational modes as identified below:

- A. The preoperational tests and testing deficiencies in Attachments A and B, respectively, of the November 3, 1986 letter from K. A. Ainger to H. R. Denton, as modified by the January 14, 1987 letter from K. A. Ainger to H. R. Denton, shall be completed in accordance with the schedule commitments contained in those attachments.

- B. Until testing of the Unit 2 Auxiliary Building ventilation system is complete, including post test review and approval by PED, the licensee shall not operate Byron Unit 2 at power levels exceeding 30%, unless the Auxiliary Building ECCS leakage can be shown to be below the corresponding limit presented in Figure 1 of the October 24, 1986 letter S. C. Hunsader to H. R. Denton. Leak rate determination shall be in accordance with the October 30, 1986, letter, S. C. Hunsader to H. R. Denton, and performed three times:
 - 1. Prior to exceeding 30% power,
 - 2. During the first two weeks of April 1987, and
 - 3. During the first two weeks of July 1987.
 - 4. Should Unit 2 be in an outage condition during the periods specified in paragraphs B.2, B.3 above, the leakage rate determinations shall be performed within the first two weeks after returning to power.

In the event that total leakage during any of these tests is GREATER than the value for the corresponding power level, the licensee shall, within 1 hour, initiate ACTION to reduce the leakage to an acceptable value or reduce power in accordance with Figure 1 within the next 6 hours.

- C. Prior to exceeding 5% power, the licensee shall seal all construction design penetration openings in designated fire barriers. Completion of nine (9) seals may be accomplished as requested in the S. C. Hunsader to J. G. Keppler letter dated January 13, 1987, and in addition, penetrations may be left unsealed to facilitate a requirement of a plant modification or plant maintenance requirement; however, the licensee shall provide compensatory measures.

ATTACHMENT 2 TO NPF-66

REVISION TO NUREG-1113

Revise Appendix A Technical Specifications (NUREG-1113) by removing the page identified below and inserting the enclosed page. The overleaf page(*) has been provided to maintain document completeness.

REMOVE

3/4 7-20

INSERT

3/4 7-19*

3/4 7-20

PLANT SYSTEMS

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

LIMITING CONDITION FOR OPERATION

3.7.7* Three independent non-accessible area exhaust filter plenums (50% capacity each) shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With one non-accessible area exhaust filter plenum inoperable, restore the inoperable plenum 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.

SURVEILLANCE REQUIREMENTS

4.7.7 Each non-accessible area exhaust filter plenum shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that operation occurs for at least 15 minutes;
- b. 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 exhaust filter plenum by:
 - 1) Verifying that the exhaust filter plenum satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% when using 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 flow rate is 66,900 cfm \pm 10% for the train and 22,300 cfm \pm 10% per bank;
 - 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample from each bank of adsorbers of the train 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 methyl iodide penetration of less than 1% when tested at the temperature of 30°C and a relative humidity of 70%;

*Not applicable prior to July 1, 1985.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 3) Verifying a system flow rate of 66,900 cfm \pm 10% through the train and 22,300 cfm \pm 10% per bank through the exhaust filter plenum during operation when tested in accordance with ANSI N510-1980; and
 - 4) Verifying that with the system operating at a flow rate of 66,900 cfm \pm 10% through the train and 22,300 cfm \pm 10% per bank and exhausting through the HEPA filter and charcoal adsorbers, the total bypass flow of the system and the damper leakage is less than or equal to 1% when the system is tested by admitting cold DOP at the system intake and the damper leakage rate is determined by either direct measurements or pressure decay measurements at a test pressure of 2 inches of water and the auxiliary building exhaust fans are operating at their rated flow.
- c. After every 720 hours of charcoal adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained from each bank of adsorbers of the train 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, when the average for a methyl iodide penetration of less than 1% when tested at a temperature of 30°C and a relative humidity of 70%.
- d. At least once per 18 months by:
- 1) Verifying for each filter bank of the train that the pressure drop across the combined HEPA filters and charcoal adsorber banks of less than 6.0 inches Water Gauge while operating the exhaust filter plenum at a flow rate of 66,900 cfm \pm 10% through the train and 22,300 cfm \pm 10% per bank;
 - 2) Verifying that the exhaust filter plenum starts on manual initiation or Safety Injection test signal; and
 - 3)* Verifying that the system maintains the ECCS equipment rooms at a negative pressure of greater than or equal to 1/4 in. Water Gauge relative to the outside atmosphere during system operation while operating at a flow rate of 66,900 cfm \pm 10% through the train and 22,300 cfm \pm 10% per bank.
- e. After each complete or partial replacement of a HEPA filter bank, by verifying that the exhaust filter plenum satisfies the in-place penetration testing acceptance criteria of less than 1% in accordance with ANSI N510-1980 for a DOP test aerosol while operating at a flow rate of 66,900 cfm \pm 10% through the train and 22,300 cfm \pm 10% per bank; and

*Not applicable to Unit 2 until October 1, 1987.

COMMONWEALTH EDISON COMPANY
BYRON STATION, UNIT NO. 2
DOCKET NO. 50-455
NOTICE OF ISSUANCE OF FACILITY OPERATING LICENSE

Notice is hereby given that the U.S. Nuclear Regulatory Commission (the Commission or NRC), has issued Facility Operating License No. NPF-66 to Commonwealth Edison Company (the licensee) which authorizes operation of the Byron Station, Unit No. 2 (the facility) at reactor core power levels not in excess of 3411 megawatts thermal in accordance with the provisions of the license, the Technical Specifications and the Environmental Protection Plan. The issuance of this license was approved by the Nuclear Regulatory Commission at a meeting on January 30, 1987, and it supersedes the License for Fuel Loading and Low Power Testing, License No. NPF-60, issued on November 6, 1986.

Byron Station, Unit No. 2 is a pressurized water reactor located in north central Illinois, 2½ miles east of the Rock River, 3 miles south-south-west of the town of Byron, and 17 miles southwest of Rockford, Illinois. The station is within Rockvale Township, Ogle County, Illinois. The license is effective as of the date of issuance.

The application for the license complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations. The Commission has made appropriate findings as required by the Act and the Commission's regulations in 10 CFR Chapter I which are set forth in the license. Prior public notice of the overall action involving the proposed issuance of an operating license for the Byron Station was published in the Federal Register on December 15, 1978 (43 FR 58659).

8702130408 870130
PDR ADOCK 05000455
P PDR

The Commission has determined that the issuance of this license will not result in any environmental impacts other than those evaluated in the Final Environmental Statement and the Assessment of the Effect of License Duration on Matters Discussed in the Final Environmental Statement for the Byron Station, Units 1 and 2 (dated April 1982) since the activity authorized by the license is encompassed by the overall action evaluated in the Final Environmental Statement.

For further details with respect to this action, see (1) Facility Operating License No. NPF-66, with Revisions to Technical Specifications (Appendix A); (2) Facility Operating License NPF-37, dated February 14, 1985 with Technical Specifications, Appendix A, NUREG-1113 and the Environmental Protection Plan, Appendix B; (3) Facility Operating License NPF-60, issued November 6, 1986; (4) the report of the Advisory Committee on Reactor Safeguards, dated March 9, 1982; (5) the Commission's Safety Evaluation Report, dated February 1982 (NUREG-0876), and Supplements 1 through 8; (6) the Final Safety Analysis Report and Amendments thereto; (7) the Environmental Report and supplements thereto; (8) and the Final Environmental Statement, dated April 1982 (NUREG-0848).

These items are available for inspection at the Commission's Public Document Room located at 1717 H Street, N. W., Washington, D.C. 20555 and at the Rockford Public Library, 215 N. Wyman Street, Rockford, Illinois. A copy of Facility Operating License NPF-66 may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of PWR Licensing-A. Copies of the Safety Evaluation Report

and Supplements 1 through 8 (NUREG-0876) and the Final Environmental Statement (NUREG-0848) may be purchased at current rates from the Superintendent of Documents, U. S. Government Printing Office, Post Office Box 37082, Washington, D.C. 20012-7982 or by calling (202) 275-2060 or (202) 275-2171.

Dated at Bethesda, Maryland this 30th day of January 1987.

FOR THE NUCLEAR REGULATORY COMMISSION

151

Steven A. Varga, Director
Project Directorate #3
Division of PWR Licensing-A

PD#3 CW
CVogan
1/28/87

PD#3
LO1shan
1/29/87

OGC X HZ
SLewis
1/30/87

PD#3
SVarga
1/30/87



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

Docket No. 50-454
50-455

AMENDMENT TO INDEMNITY AGREEMENT NO. B-97
AMENDMENT NO. 6

Effective January 30, '87 Indemnity Agreement No. B-97, between Commonwealth Edison Company and the Nuclear Regulatory Commission, dated May 6, 1983, as amended, is hereby further amended as follows:

Item 3 of the Attachment to the indemnity agreement is deleted in its entirety and the following substituted therefor:

- Item 3 - License number or numbers
- | | |
|----------|---|
| SNM-1917 | (From 12:01 a.m., May 6, 1983, to 12 midnight, October 30, 1984, inclusive) |
| SNM-1916 | (From 12:01 a.m., March 4, 1985, to 12 midnight, November 5, 1986, inclusive) |
| NPF-23 | (From 12:01 a.m., October 31, 1984, to 12 midnight, February 13, 1985, inclusive) |
| NPF-37 | (From 12:01 a.m., February 14, 1985) |
| NPF-60 | (From 12:01 a.m., November 6, 1986, to 12 midnight, inclusive) |
| NPF-66 | (From 12:01 a.m., January 30, 1987) |

FOR THE U. S. NUCLEAR REGULATORY COMMISSION

Handwritten signature of Darrel A. Nash in cursive script.

Darrel A. Nash, Acting Assistant Director
State and Licensee Relations
Office of State Programs

Accepted _____, 1987

By _____
COMMONWEALTH EDISON COMPANY



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

Docket No. 50-454
50-455

AMENDMENT TO INDEMNITY AGREEMENT NO. B-97
AMENDMENT NO. 6

Effective Jan. 30, 1987, Indemnity Agreement No. B-97, between Commonwealth Edison Company and the Nuclear Regulatory Commission, dated May 6, 1983, as amended, is hereby further amended as follows:

Item 3 of the Attachment to the indemnity agreement is deleted in its entirety and the following substituted therefor:

Item 3 - License number or numbers

SNM-1917	(From 12:01 a.m., May 6, 1983, to 12 midnight, October 30, 1984, inclusive)
SNM-1916	(From 12:01 a.m., March 4, 1985, to 12 midnight, November 5, 1986, inclusive)
NPF-23	(From 12:01 a.m., October 31, 1984, to 12 midnight, February 13, 1985, inclusive)
NPF-37	(From 12:01 a.m., February 14, 1985)
NPF-60	(From 12:01 a.m., November 6, 1986, to 12 midnight, inclusive)
NPF-66	(From 12:01 a.m.,)

FOR THE U. S. NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script that reads "Darrel A. Nash".

Darrel A. Nash, Acting Assistant Director
State and Licensee Relations
Office of State Programs

Accepted _____, 1987

By _____
COMMONWEALTH EDISON COMPANY

Safety Evaluation Report

related to the operation of
Byron Station,
Units 1 and 2

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

Commonwealth Edison Company

**U.S. Nuclear Regulatory
Commission**

Office of Nuclear Reactor Regulation

January 1987



ABSTRACT

Supplement No. 8 to the Safety Evaluation Report related to Commonwealth Edison Company's application for licenses to operate the Byron Station, Units 1 and 2, located in Rockvale Township, Ogle County, Illinois, has been prepared by the Office of Nuclear Reactor Regulation of the U.S. Nuclear Regulatory Commission. This supplement provides recent information regarding resolution of the license conditions identified in the SER. Because of the favorable resolution of the items discussed in this report, the staff concludes that the Byron Station, Unit 2 can be operated by the licensee at power levels greater than 5% without endangering the health and safety of the public.

TABLE OF CONTENTS

	<u>Page</u>
ABSTRACT.....	iii
1 INTRODUCTION AND GENERAL DESCRIPTION OF FACILITY.....	1-1
1.1 Introduction.....	1-1
1.7 Summary of Outstanding Items.....	1-1
1.8 Confirmatory Issues.....	1-2
1.9 License Conditions.....	1-4
2 SITE CHARACTERISTICS.....	2-1
2.4 Hydrology.....	2-1
6 ENGINEERED SAFETY FEATURES.....	6-1
6.5 Fission Product Removal and Control System.....	6-1
9 AUXILIARY SYSTEM.....	9-1
9.5 Other Auxiliary Systems.....	9-1
11 RADIOACTIVE WASTE MANAGEMENT.....	11-1
11.5 Process and Effluent Radiological Monitoring and Sampling Systems.....	11-1
13 CONDUCT OF OPERATIONS.....	13-1
13.3 Emergency Planning.....	13-1

1 INTRODUCTION AND GENERAL DESCRIPTION OF FACILITY

1.1 Introduction

The Nuclear Regulatory Commission's Safety Evaluation Report (SER) (NUREG-0876) in the matter of Commonwealth Edison Company's application to operate the Byron Station Units 1 and 2 was issued in February 1982. The first supplement (SSER) to that SER was issued in March 1982, the second was issued in January 1983, the third was issued in November 1983, the fourth was issued in May 1984, the fifth was issued in October 1984, the sixth was issued in February 1985, and the seventh was issued November 1986. On February 14, 1985, a full-power license was issued for Unit 1. On November 6, 1986, a license authorizing fuel loading and operation up to 5% of rated power was issued for Unit 2.

This eighth SER supplement provides the staff evaluation of those items that required resolution before 5% of rated power could be exceeded and to address changes to the SER that resulted from the receipt of additional information.

Copies of this SER supplement are available for inspection at the NRC Public Document Room, 1717 H Street, NW, Washington, D.C., and at the Rockford Public Library, Rockford, Illinois. Single copies may be purchased from the sources indicated on the inside front cover.

The NRC Project Manager assigned to the Operating License application for Byron Station is Leonard N. Olshan. Mr. Olshan may be contacted by calling (301) 492-4937 or writing:

Leonard N. Olshan
Division of Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

1.7 Summary of Outstanding Items

The current status of the outstanding items listed in the original SER and the supplements follows:

- (1) Additional information to confirm pipeline foundation design (Section 2.5) - Closed in Supplement 5.
- (2) Turbine missile evaluation (Section 3.5.1.3) - Closed in Supplement 5.
- (3) High- and moderate-energy pipe break analysis outside containment (Section 3.6.1) - Closed in Supplement 2.
- (4) Pump and valve operability assurance (Section 3.9.3.2) - Closed in Supplement 5.

- (5) Baseplate flexibility and anchor bolt loading (Section 3.9.3.4) - Closed in Supplement 3.
- (6) Seismic and dynamic qualification of equipment (Section 3.10) - Closed in Supplement 5.
- (7) Environmental qualification of electrical equipment (Section 3.11) - Closed in Supplement 5.
- (8) Improved thermal design procedures (Section 4.4.1) - Closed in Supplement 5.
- (9) TMI action item II.F.2: Inadequate Core Cooling Instrumentation (Section 4.4.7) - Closed in Supplement 5.
- (10) Steam generator flow-induced vibrations (Section 5.4.2) - Closed in Supplement 5.
- (11) Reactor pressure vessel forces and moments analysis (Section 6.2.1.2) - Closed in Supplement 2.
- (12) Equipment and floor drainage system for internal flood protection (Section 9.3.3) - Closed in Supplement 2.
- (13) Fire protection program (Section 9.5.1) - Closed in Supplement 5.
- (14) Residual moisture in diesel air start piping (Section 9.5.6) - Closed in Supplement 1.
- (15) Volume reduction system (Sections 11.1 and 11.4.2) - closed in Supplement 6.
- (16) Emergency preparedness plans and facilities (Section 13.3) - Closed in Supplement 4.
- (17) Control room human factors review (Section 18.0) - Closed in Supplement 4.
- (18) Conformance of ESF filter system to RG 1.52 (Section 6.5.1) - Closed in Supplement 5.

1.8 Confirmatory Issues

- (1) Confirmatory analysis to verify river screenhouse seismic response analysis (Section 2.5.4.3) - Closed in Supplement 6.
- (2) Category 1 manhole protection from tornado missiles (Section 3.5.3) - Closed in Supplement 1.
- (3) Analysis of tangential shear on containment (Section 3.8.1) - Errata, deleted in Supplement 2.
- (4) Piping vibration test program (Section 3.9.2.1) - Closed in Supplement 6.

- (5) Snubber inspection and testing program details (Section 3.9.2.1) - Closed in Supplement 1.
- (6) Seismic reevaluation of components and supports (Section 3.9.2.2) - Closed in Supplement 1.
- (7) Basis for steam generator tube plugging (Section 3.9.3.1) - Closed in Supplement 3.
- (8) Inservice testing of pumps and valves (Section 3.9.6) - Closed in Supplement 5.
- (9) Loose parts monitoring system (Section 4.4.6) - Closed in Supplement 2.
- (10) Code cases for control valves (Section 5.2.1) - Closed in Supplement 1.
- (11) Fracture toughness data for Byron Unit 2 (Section 5.3.1) - Closed in Supplement 2.
- (12) Steam generator tube surveillance (Section 5.4.22) - Closed in Supplement 2.
- (13) Boration to cold shutdown analysis (Section 5.4.3) - Closed in Supplement 2.
- (14) Cooldown rate with RHR (Section 5.4.3.1) - Closed in Supplement 2.
- (15) RCS vent procedures (Section 5.4.5) - Closed in Supplement 2.
- (16) Charging pump deadheading (Section 6.3.2), (Section 7.3.2.13) - Closed in Supplement 7.
- (17) Containment differential pressure analysis (Section 6.2.1) - Closed in Supplement 2.
- (18) Containment sump instrumentation (Section 6.2.1.1) - Closed in Supplement 2.
- (19) Minimum containment pressure analysis for performance capabilities of ECCS (Section 6.2.1.5) - Closed in Supplement 5.
- (20) Containment leakage testing vent and drain provisions (Section 6.2.6) - Closed in Supplement 5.
- (21) Confirmatory test for sump design (Section 6.3.4.1) - Closed in Supplement 5.
- (22) Upper head temperature verification (Section 6.3.5.1) - Closed in Supplement 2.
- (23) IE Bulletin 80-06 (Section 7.3.2.2) - Closed in Supplement 6.
- (24) Test jacks for P-4 interlock test (Section 7.3.2.9) - Closed in Supplement 2.

- (25) Remote shutdown capability (Section 7.4.2.2) - Closed in Supplement 7 for Unit 1.
- (26) Steam generator pressure control (Section 7.4.2.3) - Closed in Supplement 2.
- (27) Switchover from injection to recirculation (Section 7.6.2.3) - Closed in Supplement 3.
- (28) TMI Item II.K.3.1 (Section 7.6.2.7); III.D.1.1 (Section 9.3.5); II.K.2.17 (Section 15.5); II.D.I (3.9.3.3); II.K.2.17 - Closed in Supplement 2, others closed in Supplement 5.
- (29) Viewing the installation and arrangement of electrical equipment (Section 8.1) - Closed in Supplement 3.
- (30) Independence of redundant electrical safety equipment (Section 8.4.4) - Closed in Supplement 2.
- (31) Electrical distribution system voltage verification (Section 8.2.4) - Closed in Supplement 6.
- (32) Combined health physics and chemistry organization (Section 12.5.1) - Closed in Supplement 3.
- (33) Revision to Physical Security Plan (Section 13.6) - Closed in Supplement 4.
- (34) RCP rotor seizure and shaft break (Section 15.3.6) - Closed in Supplement 5.
- (35) Anticipated Transients Without Scram (ATWS) (Section 15.6) - Closed in Supplement 4.
- (36) Applicant compliance with the Commission's regulations (Section 1.1) - Closed in Supplement 4.
- (37) SWS process control program (Section 11.4.2) - Closed in Supplement 5.
- (38) Noble gas monitor (Section 11.5.2) - Closed in Supplement 5.

1.9 License Conditions

Following is the current status of the license conditions:

- (1) Groundwater monitoring program (Section 2.4.6) - Closed in Supplement 5.
- (2) Masonry walls (Section 3.8.3) - Closed in Supplement 5.
- (3) Preservice and Inservice inspection program (Sections 5.2.4 and 6.6) - Closed in Supplement 5 for Unit 1, closed in Supplement 7 for Unit 2.
- (4) Response time testing (Section 7.2.2.5) - Closed in Supplement 4.
- (5) Post accident monitoring (Section 7.5.2.2) - Closed in Supplement 2.

- (6) Modifications to permit isolation of non-IE loads from Class 1E power sources (Section 8.3.2) - Errata, deleted in Supplement 1.
- (7) Compliance with Appendix R of 10 CFR 50, Fire Protection (Section 9.5.1).
- (8) Steam valve inservice inspection (Sections 3.5.1.3, 10.2) - Closed in Supplement 5.
- (9) Implementation of secondary water chemistry monitoring and control program as proposed by the Byron/Braidwood FSAR (Section 10.3.2) - Closed in Supplement 4.
- (10) Personnel on shift with previous commercial PWR experience during startup phase (Section 13.2.1) - Closed in Supplement 4.
- (11) TMI Item II.B.3 Postaccident Sampling (Section 9.3.2) - Closed in Supplement 5.
- (12) Natural circulation testing (Section 5.4.3) - Closed in Supplement 5.
- (13) Control of heavy loads (Section 9.1.5) - Closed in Supplement 6.
- (14) Upgrade emergency operating procedures (Section 13.5.2) - Closed in Supplement 7.
- (15) Relocate control room controls (Section 18.2) - Closed in Supplement 7.
- (16) Emergency planning (Section 13.3) - Closed in Supplement 6.
- (17) Seismic and dynamic qualification (Section 3.10) - Closed in Supplement 7 for Unit 2.
- (18) Equipment qualification (Section 3.11) - Closed on November 30, 1985.
- (19) Iodine particulate sampling (Section 11.5.2) - Closed in this supplement.
- (20) Reliability of diesel generators (Section 9.5.4.1) - Closed in this supplement.
- (21) Feedwater flow measurement accuracy monitoring (Section 4.4.1) - Closed in Supplement 6.
- (22) Protection against postulated breaks or cracks in high- and moderate-energy lines (Section 3.6.2) - Closed in Supplement 6.
- (23) Volume reduction system (from Outstanding Issue 15) - Closed in Supplement 6.
- (24) Shift advisors (Section 13.1.2) - Closed in Supplement 7.
- (25) Turbine maintenance program (Section 3.5.1) - Closed in Supplement 7.
- (26) Control room ventilation system (Section 6.5.1) - Closed on July 1, 1985 for Unit 1.

2 SITE CHARACTERISTICS

2.4 Hydrology

2.4.8 Safety-Related Water Supply

In a letter dated November 3, 1986 from K. A. Ainger to Harold Denton, the licensee indicated all the tests necessary to demonstrate the capability of the tower under full design basis conditions could not be completed. In Attachment B of the letter, the licensee indicated that the modifications to the towers for missile protection had apparently reduced the capability of each tower to 50% of the manufacturer's original rating. Recognizing the shortcomings in the performance of the towers, the licensee constructed a set of curves indicating the tower capacity against the wet bulb temperatures. In constructing these capacity curves, the licensee used the available test data and extrapolated the results to higher wet bulb temperatures.

Considering the uncertainty in the tower performance and the limited data base, the staff recommended more restrictive limiting conditions for operation than those in Section 3.7.5 of the Byron Technical Specifications. The recommended limiting conditions are slightly more restrictive than those proposed by the licensee to account for the uncertainty in tower performance. By letter dated January 14, 1987, the licensee committed to operate with these more restrictive conditions. Thus, one unit will be placed in cold shutdown if the wet bulb temperature exceeds 75°F (no tornado warning) or if the wet bulb temperature exceeds 65°F with a tornado warning in effect. The limiting conditions are to be observed with the applicable actions as provided in Section 3.7.5 of the Technical Specification.

In order to assure that the limiting conditions do not prevent the licensee from obtaining valid data points during higher wet bulb temperatures, the meteorological data for the Chicago area were obtained and evaluated. The evaluation indicates that the prevalent wet bulb temperature in late April should be around 60°F and that in June-July should be around 70°F. The limiting condition of 75°F (no tornado watch) should provide enough margin over the prevalent wet bulb temperatures so that the licensee can obtain tower performance data in hot weather.

The staff concludes that operation with the new limiting conditions for operation is acceptable in the interim until the additional tower performance data are available and evaluated by the staff.

6 ENGINEERED SAFETY FEATURES

6.5 Fission Product Removal and Control System

6.5.1 Engineering Safety Feature (ESF) Atmospheric Cleanup System

SER Supplement No. 7 provided the basis for allowing interim operation of Unit 2 until July 1, 1987 with the auxiliary building ventilation (VA) system incapable of maintaining at least a 1/4 inch water gage negative pressure in each individual compartment of the VA system. By letter dated January 13, 1987, the licensee stated that additional time would be needed to complete testing of the VA system and requested that the interim operation be allowed until October 1, 1987. Unanticipated problems and the upcoming refueling outage of Unit 1 necessitate the extension to October 1, 1987.

To provide additional assurance that ECCS leakage is less than values specified in the licensee's October 24, 1986 letter, the staff is requiring two additional leak rate determinations. The Unit 2 license contains a condition that two leak rate determinations be performed, one in April 1987 and one in July 1987, in addition to the one prior to 30% power that was proposed by the licensee.

The staff has reviewed the independent analysis it previously performed (see Supplement No. 7) and has verified that the extension until October 1, 1987 for the interim plan for operation of the VA system is acceptable because the ECCS leakage rate will continue to be verified to be less than 1.0 gpm for the extended operating period.

9 AUXILIARY SYSTEMS

9.5 Other Auxiliary Systems

9.5.1 Fire Protection Program

In SER Supplement No. 7, the staff identified two unresolved issues regarding the incomplete high/low pressure interface analysis of the reactor head vent and excess letdown lines and the six National Fire Protection Association (NFPA) code deviations for BTP CMEB 9.5-1. Following is the resolution of these two issues:

9.5.1.4 General Plant Guidelines

Safe Shutdown Capability

By letters dated September 23, October 23, November 3, December 12 and 15, 1986 and January 21, 1987 the licensee submitted the additional information regarding the high/low pressure interface analysis of the reactor head vent valves and excess letdown lines. In the November 3, 1986 submittal, the licensee has proposed to remove power from the reactor head vent valves in the event of a fire as stated in the PRI-5 - Rev. 54 procedures. The staff finds the licensee action acceptable.

By letter dated October 23, 1986, the licensee provided the results of an analysis concerning the spurious operation of the valves that form the high/low pressure interface on the excess letdown lines. The licensee has stated that the valves are arranged in such a way for the excess letdown lines that at least four spurious valve failures would have to occur simultaneously in order to create an uncontrolled coolant loss to the reactor coolant drain tank (RCDT).

Due to the number of valves involved in this scenario, the spurious operation of these valves due to fire is incredible. On this basis, the staff finds the licensee analysis for the excess letdown lines acceptable. Therefore, this item is considered closed.

In the January 21, 1987 letter, the licensee identified five deviations from the following National Fire Protection Association (NFPA) codes:

- NFPA 12A Halon Check Valves
- NFPA 15 Water Supply Systems

The NFPA 12A Section 2-7.4 states that only listed or approved equipment and devices shall be used in the system. The halon check valves at Byron 2 are not specifically approved by NFPA but the components of the halon system have been designed, installed and tested in accordance with the recommendations of NFPA codes. Further, the licensee has stated that the preoperational test of these systems will verify the operability of these valves. Therefore, the

staff concludes that the NFPA 12A deviation is acceptable. The NFPA 15 Section 2-1.2 states that all automatic water systems should be equipped with a U.L. Listed solenoid switch. The licensee proposed to have testing procedures which will confirm the operability of the components. The staff finds this deviation acceptable.

Section 4-11.3 of NFPA 15 codes recommends that the individual strainers should be provided at each nozzle where water passage ways are smaller than the one-eighth of an inch. The licensee has proposed to provide the strainers upstream of the fire pumps instead of at each nozzle.

NFPA 15 Section 2-13 states that a suitable flushing connection should be incorporated into the water spray systems to facilitate routine flushing. The licensee has stated that all the water spray systems are flushed up to the system piping. The staff finds this deviation acceptable. Section 4-9.25 of the NFPA 15 codes requires that a gage connection be provided at or near the nozzle for all the automatic water spray systems to determine the lowest pressure under normal flow conditions. The licensee stated that to verify the adequate water supply, limiting hydraulic analyses were performed for the individual water spray system. Therefore, the individual gage is not necessary for these systems. The staff finds this deviation acceptable.

On the basis of its review, the staff concludes that the above deviations are acceptable and meet the guidelines of BTP-CMEB 9.5-1.

9.5.4 Emergency Diesel Engine Fuel Oil Storage and Transfer System

9.5.4.1 Emergency Diesel Engine Auxiliary Support System (General)

The licenses for Units 1 and 2 contained a condition that required satisfactory completion of dynamic qualification of the instrumentation and controls on the diesel generator control panel. The concern was discussed in SER Supplement No. 5.

By letter dated November 18, 1986, the license provided additional information in response to the staff's August 23, 1985 letter.

The basic dynamic qualification of the control panels for Byron 1 and 2 was established on the basis of similarity with the panel including its instrumentation and other devices at the LaSalle plant. The LaSalle control panel was qualified by actual testing. The staff performed a review of the additional information provided in the November 18, 1986 letter and concludes:

- (a) during vibration testing of the panel, acceleration responses were recorded at seven locations where safety-related devices are mounted on the panel; this is satisfactory since a direct response measurement at the device location was obtained vs. the excitation at the base of the panel only;
- (b) based on the acceleration plots on the LaSalle panel it is evident that driving frequencies during generator operation are in the 10 to 1000 Hz range which is significantly beyond seismic input range;

therefore, the margin available at the zero period acceleration for the safe shutdown earthquake is adequate to account for the combined effects of the earthquake and operational vibration;

- (c) similarity between the LaSalle components and Byron 1 and 2 components was indicated in a component by component listing; that is satisfactory; and
- (d) by providing the details of methods and results of calculations performed, the licensee has established fatigue endurance of the Byron 1 and 2 control panels; the fatigue damage potential for the Byron 1 and 2 panels subjected to a synthetic time history was evaluated by comparing them to the fatigue damage induced by measured time histories for the LaSalle panels (qualified by fatigue testing).

Based on the above, the staff concludes that the investigation conducted by the licensee on the dynamic qualifications of its diesel generator control panels, including the instrumentation and control devices, is satisfactory, and there is reasonable assurance that the subject equipment should perform its safety function adequately. Therefore, the applicable license conditions have been satisfied.

11 RADIOACTIVE WASTE MANAGEMENT

11.5 Process and Effluent Radiological Monitoring and Sampling Systems*

The Unit 1 license contained a condition that the licensee demonstrate that the iodine/particulate sampling system will perform its intended function. The concern was discussed in SER Supplement No. 5.

In a letter dated November 5, 1986 the licensee submitted a description of the modifications that will be made to demonstrate the capability to sample for gaseous radioiodine in conformance with TMI Action Plan Item II.F.1. This information was submitted to provide the NRC staff sufficient detail to evaluate whether the concerns identified in SER Supplement No. 5 had been alleviated.

The licensee will replace its 1/4" diameter high range sample line with 3/4" diameter heat-traced line which will sample under both low and mid/high range operating conditions. An auxiliary pump skid will be added with automatic isokinetic flow control through the use of a flow splitter manifold. This auxiliary pump will be automatically started by the radiation monitor's coprocessor and stopped by the high flow sample pump. The flow splitter manifold will direct the entire sample to the high flow path during low range radioactivity operation when the high flow sample pump is operating and to the low flow sample path during mid/high range operation when the low flow path sample pump and the auxiliary pump are running.

The staff believes that the utilization of this high flow sample line (3/4") eliminates the concern expressed in the Region III inspection report. However, the NRC has contracted Pacific Northwest Laboratories (PNL) to study the problems associated with obtaining representative samples from these sampling lines. While the staff finds the present modifications to the Byron facility acceptable, additional modifications may be required based upon the recommendations of the PNL study. For the present, the licensee's modifications are deemed acceptable and the license condition will be satisfied when these modifications are completed during the first refueling outage of Unit 1. These modifications are common to both units and thus, will also resolve the concern on Unit 2.

*By letter dated January 8, 1987, the staff transmitted this section to the licensee.

13 CONDUCT OF OPERATIONS

13.3 Emergency Planning

13.3.1 Offsite Emergency Planning Medical Services

In a decision, GUARD v. NRC, 753 F.2d 1144 (D.C. Cir. 1985), the U.S. Court of Appeals vacated the Commission's interpretation of 19 CFR §50.47(b)(12) to the extent that a list of facilities was found to constitute adequate arrangements for medical services for members of the public offsite exposed to dangerous levels of radiation. Subsequently, the Commission issued interim guidance on May 21, 1985 requiring applicants for nuclear power reactor operating licenses to provide confirmation that the emergency plans contain a list of local or regional medical treatment facilities and to commit to comply with any additional requirements imposed by the Commission in response to the GUARD remand. On September 17, 1986 the Commission issued its final policy and interim guidance to be followed in determining compliance with this regulation. The Commission directed that Licensing Boards [and in uncontested cases, the staff] should rely on the interim guidance of the May 21, 1985 Statement of Policy until the NRC staff develops, in consultation with FEMA, and issues appropriate detailed guidance and until the licensees, applicants and state and local governments have had the time necessary to implement the detailed guidance. Specifically, the licensee shall satisfy the requirements of planning standard (b)(12) under 10 CFR 50.47 (c)(1) as interpreted by the Commission prior to the GUARD decision and shall commit itself to full compliance with any additional requirements imposed by the Commission in response to the GUARD remand.

Consistent with the foregoing Statement of Policy, the licensee submitted a May 20, 1986 letter committing to full compliance with the Commission's response to the GUARD remand. Subsequently, the licensee submitted a September 16, 1986 letter confirming that the Offsite Emergency Plans for Byron includes a list of local or regional hospitals which have the capabilities to provide treatment for patients who are contaminated and injured as well as those who have suffered radiation exposure.

Accordingly, on the basis of the factors identified by the Commission in its Statement of Policy, the staff has determined that the requirements of 10 CFR §50.47(c)(1) have been satisfied so as to warrant issuance of the operating license for power levels greater than 5%.

APPENDIX F

NRC STAFF CONTRIBUTIONS

This Supplement No. 8 to the SER is a product of the NRC staff and its consultants. The NRC staff members listed below were principal contributors to this report.

<u>Name</u>	<u>Title</u>	<u>Review Branch</u>
H. Ashar	Civil Engineer	Engineering (PWR-A)
G. Staley	Hydraulic Engineer	Engineering (PWR-B)
J. Hayes	Nuclear Engineer	Plant Systems (PWR-A)
G. Bagchi	Section Leader	Engineering (PWR-A)
A. Singh	Mechanical Engineer	Plant Systems (PWR-A)
R. Meck	Emergency Preparedness Specialist	Emergency Preparedness (IE)

APPENDIX A

Continuation of the chronology of the NRC staff's radiological safety review for the period October 2, 1986, to January 14, 1987, for the Byron Station, Units 1 and 2.

October 2, 1986	Letter from applicant transmitting additional information on Environmental Effects on Main Steam Line Break Outside Containment - Information Notice 84-90.
October 3, 1986	Letter from applicant concerning Submittal of Revised Heatup and Cooldown Curves.
October 7, 1986	Letter from applicant concerning Section 6.0 Technical Specifications.
October 9, 1986	Letter from applicant requesting an exemption from the requirements of 10 CFR 50, Appendix A, General Design Criteria (GDC) 13 and 17.
October 14, 1986	Environmental Assessment noticed in FR (51FR37096) 10/17/86 for exemption from Appendix A and J to 10 CFR Part 50.
October 15, 1986	Letter from applicant transmitting an application for Amendment to Facility Operating License NPF-37, Appendix A, Technical Specifications.
October 16, 1986	Letter from applicant concerning Preservice Inspection Byron Station, Unit 2.
October 23, 1986	Letter from applicant concerning Integrated Leakage Rate Test Results.
October 23, 1986	Letter from applicant concerning Review of High-Low Pressure Interface Valves on Excess Letdown Lines.
October 24, 1986	Letter from applicant concerning Interim Operation of HVAC Systems, Byron Unit 2.
October 24, 1986	Letter from applicant concerning Seismic Qualification, Byron Station, Unit 2.
October 27, 1986	Letter from applicant concerning Interim Technical Specification, Byron Station, Unit 2.
October 27, 1986	Letter from applicant concerning Fire Protection Technical Specification Changes.

October 29, 1986 Letter to applicant transmitting Amendment No. 4 for Byron Units 1 and 2 Revised Technical Specifications.

October 29, 1986 Letter from applicant supplementing CECO letter, dated August 15, 1986, concerning the essential service water system application for amendment to NPF-37, Appendix A, Technical Specifications.

October 29, 1986 Letter from applicant concerning Preservice Inspection Steam Generators and Pressurizer, Byron Unit 2.

October 29, 1986 Letter from applicant concerning Environmental Qualification in Compliance With 10 CFR 50.49.

October 29, 1986 Letter from applicant concerning FSAR Revisions - Advance Information.

October 29, 1986 Letter to applicant concerning Approval of Byron Unit 2 Preservice Inspection Program.

October 30, 1986 Letter from applicant concerning Interim Operation of HVAC System, Byron Unit 2.

October 30, 1986 Letter from applicant transmitting FSAR Update concerning Preoperational Testing Program.

November 3, 1986 Letter from applicant concerning Deferral of Limited Aspects of the Initial Test Program, Byron Unit 2.

November 3, 1986 Letter from applicant concerning Review of the Reactor Head Vent Valves for Spurious Operation, Byron Unit 2.

November 5, 1986 Letter from applicant concerning Satisfaction of Licensing Requirements and Certification of Technical Specifications, Byron Station, Unit 2.

November 5, 1986 Letter from applicant concerning Plant Effluent Sampling.

November 6, 1986 Issuance of Facility Operating License NPF-60, Byron Station, Unit 2 for 5% of power. Letter to applicant includes Facility Operating License NPF-60, Federal Register Notice, Amendment No. 5 to the Indemnity Agreement B-97 and Supplement No. 7 to the SER.

November 7, 1986 Letter from applicant concerning Preservice Inspection, Byron Units 1 and 2.

November 19, 1986 Letter to applicant transmitting Supplement No. 7 to the SER, NUREG-0876.

November 24, 1986 Letter from applicant concerning Emergency Core Cooling System Technical Specification.

November 26, 1986 Letter to applicant concerning Pressurized Thermal Shock.

November 26, 1986 Letter from applicant concerning Human Factors Review.

December 5, 1986 Letter to applicant concerning Performance of Essential Service Water Cooling Towers.

December 12, 1986 Letter to applicant transmitting Amendment No. 5 for Byron Units 1 and 2 concerning DC Crossties and Cooling Towers.

December 19, 1986 Letter to applicant transmitting replacement pages for Amendment No. 5 issued 12/12/86.

December 23, 1986 Letter from applicant concerning Modification to Narrow Range Resistance Temperature Detectors.

December 24, 1986 Letter from applicant concerning TMI Action Item II.K.3.31.

December 24, 1986 Letter from applicant concerning Essential Service Water System Cooling Towers.

January 6, 1987 Letter from applicant concerning application for amendment to Technical Specifications - Reconstitution of Fuel Assembly.

January 8, 1987 Letter to applicant concerning TMI Item II.F.1, Iodine/Particulate Sampling.

January 14, 1987 Letter to applicant concerning Generic Letter 83-28: Item 2.1.

NRC FORM 336 (2-84) NRCM 1102, 3201, 3202 BIBLIOGRAPHIC DATA SHEET SEE INSTRUCTIONS ON THE REVERSE	U.S. NUCLEAR REGULATORY COMMISSION 1 REPORT NUMBER (Assigned by TIDC, add Vol. No., if any) NUREG-0876 Supplement No. 8				
2. TITLE AND SUBTITLE Safety Evaluation Report related to the operation of Byron Station, Units 1 and 2	3 LEAVE BLANK 4 DATE REPORT COMPLETED <table border="1"> <tr> <td>MONTH</td> <td>YEAR</td> </tr> <tr> <td>January</td> <td>1986</td> </tr> </table>	MONTH	YEAR	January	1986
MONTH	YEAR				
January	1986				
5. AUTHOR(S)	6 DATE REPORT ISSUED <table border="1"> <tr> <td>MONTH</td> <td>YEAR</td> </tr> <tr> <td>January</td> <td>1986</td> </tr> </table>	MONTH	YEAR	January	1986
MONTH	YEAR				
January	1986				
7. PERFORMING ORGANIZATION NAME AND MAILING ADDRESS (Include Zip Code) Division of PWR Licensing-A Office of Nuclear Reactor Regulation U. S. Nuclear Regulatory Commission Washington, D. C. 20555	8. PROJECT/TASK/WORK UNIT NUMBER 9. FIN OR GRANT NUMBER				
10. SPONSORING ORGANIZATION NAME AND MAILING ADDRESS (Include Zip Code) Same as 7 above	11a. TYPE OF REPORT Technical b. PERIOD COVERED (Inclusive dates)				
12 SUPPLEMENTARY NOTES Docket Nos. 50-454 and 455					
13. ABSTRACT (200 words or less) <p>Supplement No. 8 to the Safety Evaluation Report related to Commonwealth Edison Company's application for licenses to operate the Byron Station, Units 1 and 2, located in Rockvale Township, Igle County, Illinois, has been prepared by the Office of Nuclear Reactor Regulation of the U. S. Nuclear Regulatory Commission. This supplement provides recent information regarding resolution of the license conditions identified in the SER. Because of the favorable resolution of the items discussed in this report, the staff concludes that the Byron Station, Unit 2 can be operated by the licensee at power levels greater than 5% without endangering the health and safety of the public.</p>					
14 DOCUMENT ANALYSIS - a. KEYWORDS/DESCRIPTORS b. IDENTIFIERS/OPEN-ENDED TERMS	15 AVAILABILITY STATEMENT - Unlimited 16 SECURITY CLASSIFICATION (This page) Unclassified (This report) Unclassified 17 NUMBER OF PAGES 18 PRICE				

SUBJECT: ISSUANCE OF FACILITY OPERATING LICENSE NO. NPF-66
FOR BYRON STATION, UNIT 2

INTERNAL DISTRIBUTION

Docket Files*

NRC PDR*

Local PDR*

PD#5 R/F

S. Varga

L. Olshan (2)*

CVogan (5)*

TNovak*

IDinitz,SP

OPR

HDenton

WLambe, P&RAB

RDiggs

JPartlow*

BGrimes*

EJordan*

LHarmon*

TBarnhart (4)*

IBailey*

S. Lewis, OGC*

JRutberg/BVogler, OGC

JScinto, OGC

ACRS (10)

C. Miles, PA

J. Halloway, Jr. D/LFMS

L. Solander, PPAS

J. Marvella Rodriguez, RM/AFO

* w/Technical Specifications