

January 13, 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: ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT -  
BYRON AND BRAIDWOOD STATIONS (TAC NOS. M90831, M90832, M90833, AND  
M90834)

Dear Mr. Farrar:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for amendment dated November 7, 1994, as supplemented by letter dated December 16, 1994. The proposed amendment would change the Technical Specifications to allow for the storage of fuel with an enrichment not to exceed a nominal 5.0 weight percent U-235 in the new and spent fuel storage racks.

The assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

original signed by:

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

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

Enclosure: Environmental Assessment

cc w/encl: see next page

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D. L. Farrar  
Commonwealth Edison Company

cc:

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

Joseph Gallo  
Gallo & Ross  
1250 Eye St., N.W., Suite 302  
Washington, DC 20005

Regional Administrator  
U.S. NRC, Region III  
801 Warrenville Road  
Lisle, Illinois 6013

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

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

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

Howard A. Learner  
Environmental Law and Policy  
Center of the Midwest  
203 North LaSalle Street  
Suite 1390  
Chicago, Illinois 60601

EIS Review Coordinator  
U.S. Environmental Protection Agency  
77 W. Jackson Blvd.  
Chicago, Illinois 60604-3590

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  
4448 North German Church Road  
Byron, Illinois 61010-9750

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

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

Attorney General  
500 South Second Street  
Springfield, Illinois 62701

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

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

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

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

Commonwealth Edison Company  
Braidwood Station Manager  
Rt. 1, Box 84  
Braceville, Illinois 60407

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

Mr. Bill Franz (5)  
Environmental Review Coordinator  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

UNITED STATES NUCLEAR REGULATORY COMMISSION

COMMONWEALTH EDISON COMPANY

DOCKET NOS. STN 50-454, STN 50-455, STN 50-456, AND STN 50-457  
BYRON STATION, UNITS 1 AND 2, AND BRAIDWOOD STATION, UNITS 1 AND 2  
ENVIRONMENTAL ASSESSMENT AND FINDING OF  
NO SIGNIFICANT IMPACT

The U. S. Nuclear Regulatory Commission (the Commission) is considering issuance of amendments to Facility Operating License Nos. NPF-37 and NPF-66, issued to Commonwealth Edison Company (ComEd, the licensee) for operation of Byron Station, Unit Nos. 1 and 2, located in Ogle County, Illinois, and to Facility Operating License Nos. NPF-72 and NPF-77 for operation of Braidwood Station, Unit Nos. 1 and 2, located in Will County, Illinois.

ENVIRONMENTAL ASSESSMENT

Identification of Proposed Action

By letter dated November 7, 1994, Commonwealth Edison Company (ComEd, the licensee) requested changes to the technical specifications (TS) for Byron Station, Units 1 and 2, and Braidwood Station, Units 1 and 2, to permit the use of higher enriched fuel and to specify the spent fuel storage requirements for Regions 1 and 2 of the spent fuel pools.

The proposed changes would allow for the storage of fuel with enrichment not to exceed a nominal 5.0 weight percent (w/o) Uranium 235 (U-235) in the spent fuel storage racks. An enrichment manufacturing tolerance of  $\pm 0.05$  percent U-235 about the nominal value was incorporated into the analysis.

The proposed action is in accordance with the licensee's application for amendment dated November 7, 1994, as supplemented by letter dated December 16, 1994.

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### The Need for Proposed Action

The proposed changes are needed so that the licensee can use higher fuel enrichment to provide the flexibility of extending the fuel irradiation and to reduce the number of new fuel assemblies required per reload which will reduce spent fuel storage space requirements.

### Environmental Impacts of the Proposed Action

The Commission has completed its evaluation of the proposed revisions to the TS. The proposed revisions would permit use of fuel enriched to a nominal 5.0 weight percent U-235. The safety considerations associated with reactor operation with higher enrichment and extended irradiation have been evaluated by the NRC staff. The staff has concluded that such changes would not adversely affect plant safety. The proposed changes have no adverse effect on the probability of any accident. The higher enrichment, with fuel burnup to 60,000 megawatt days per metric ton Uranium, may slightly change the mix of fission products that might be released in the event of a serious accident, but such small changes would not significantly affect the consequences of serious accidents. No changes are being made in the types or amounts of any radiological effluents that may be released offsite. There is no significant increase in the allowable individual or cumulative occupational radiation exposure.

The environmental impacts of transportation resulting from the use of higher enrichment fuel and extended irradiation were published and discussed in the staff assessment entitled, "NRC Assessment of the Environmental Effects of Transportation Resulting from Extended Fuel Enrichment and Irradiation," dated July 7, 1988, and published in the Federal Register (53 FR 30355) on

August 11, 1988, as corrected on August 24, 1988 (53 FR 32322) in connection with Shearon Harris Nuclear Power Plant, Unit 1: Environmental Assessment and Finding of No Significant Impact. As indicated therein, the environmental cost contribution of the proposed increase in the fuel enrichment and irradiation limits are either unchanged or may, in fact, be reduced from those summarized in Table S-4 as set forth in 10 CFR 51.52(c). These findings are applicable to Byron, Units 1 and 2, and Braidwood, Units 1 and 2. Accordingly, the Commission concludes that there are no significant radiological environmental impacts associated with the proposed amendment.

With regard to potential nonradiological impacts, the proposed action involves features located entirely within the restricted area as defined in 10 CFR Part 20. It does not affect non-radiological plant effluents and has no other environmental impact. Accordingly, the Commission concludes that there are no significant non-radiological environmental impacts associated with the proposed action.

#### Alternative to the Proposed Action

Since the Commission concluded that there are no significant environmental effects that would result from the proposed action, any other alternative would have equal or greater environmental impacts and need not be evaluated.

As an alternative to the proposed action, the staff considered denial of the proposed action. Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the alternative action are similar.

Alternative Use of Resources

This action does not involve the use of any resources not previously considered in the Final Environmental Statement related to operation of Byron, Units 1 and 2, and Braidwood, Units 1 and 2.

Agencies and Persons Consulted

In accordance with its stated policy, the staff consulted with the Illinois State official regarding the environmental impact of the proposed action. The State official had no comments.

FINDING OF NO SIGNIFICANT IMPACT

Based upon the foregoing environmental assessment, we conclude that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact statement for the proposed license amendments.

For further details with respect to this action, see the application for amendments dated November 7, 1994, as supplemented by letter dated December 16, 1994, which are available for public inspection at the Commission's Public Document Room, The Gelman Building, 2120 L Street, NW., Washington, DC, and at the local public document room for Byron Station, the Byron Public Library, 109 N. Franklin, P.O. Box 434, Byron, Illinois, and for Braidwood Station, the Wilmington Township Public Library, 201 S. Kankakee Street, Wilmington, Illinois.

Dated at Rockville, Maryland, this 13th day of January 1995.

FOR THE NUCLEAR REGULATORY COMMISSION



Clyde Y. Shiraki, Acting Director  
Project Directorate III-2  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

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January 13, 1995

DOCKET NO. STN 50-454, STN 50-455, STN 50-456, STN 50-457

MEMORANDUM TO: Rules Review and Directives Branch  
 Division of Freedom of Information and Publications Services  
 Office of Administration

FROM: Office of Nuclear Reactor Regulation

SUBJECT: COMMONWEALTH EDISON COMPANY - Braidwood, 1&2, and Byron, 1&2

One signed original of the *Federal Register* Notice identified below is attached for your transmittal to the Office of the Federal Register for publication. Additional conformed copies ( 5 ) of the Notice are enclosed for your use.

- Notice of Receipt of Application for Construction Permit(s) and Operating License(s).
- Notice of Receipt of Partial Application for Construction Permit(s) and Facility License(s): Time for submission of Views on Antitrust matters.
- Notice of Consideration of Issuance of Amendment to Facility Operating License. (Call with 30-day insert date).
- Notice of Receipt of Application for Facility License(s); Notice of Availability of Applicant's Environmental Report; and Notice of Consideration of Issuance of Facility License(s) and Notice of Opportunity for Hearing.
- Notice of Availability of NRC Draft/Final Environmental Statement.
- Notice of Limited Work Authorization.
- Notice of Availability of Safety Evaluation Report.
- Notice of Issuance of Construction Permit(s).
- Notice of Issuance of Facility Operating License(s) or Amendment(s).
- Order.
- Exemption.
- Notice of Granting Exemption.
- Environmental Assessment.
- Notice of Preparation of Environmental Assessment.
- Receipt of Petition for Director's Decision Under 10 CFR 2.206.
- Issuance of Final Director's Decision Under 10 CFR 2.206.
- Other: \_\_\_\_\_

Robert A. Capra, Director, PDIII-2  
 Office of Nuclear Reactor Regulation

Attachment(s): As stated

Contact: Ramin R. Assa  
 Telephone: 415-1391

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