

February 22, 1999

Mr. Oliver D. Kingsley, President
Nuclear Generation Group
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 STATION, UNITS 1 AND 2 (TAC NOS. MA3930 AND
MA3931)

Dear Mr. Kingsley:

Enclosed is a copy of an Environmental Assessment and Finding of No Significant Impact related to your application for exemptions dated October 22, 1998. The proposed exemptions from the requirements of 10 CFR 50.44, 10 CFR 50.46 and 10 CFR Part 50, Appendix K, would allow the use of two Lead Test Assemblies.

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

Sincerely,

ORIG. SIGNED BY

John B. Hickman, 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

Enclosure: Environmental Assessment

cc w/encl: See next page

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

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Sincerely,

A handwritten signature in black ink, appearing to read "John B. Hickman".

John B. Hickman, 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

Enclosure: Environmental Assessment

cc w/encl: See next page

O. Kingsley
Commonwealth Edison Company

Byron Station
Units 1 and 2

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O. Kingsley
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Byron Station
Units 1 and 2

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UNITED STATES NUCLEAR REGULATORY COMMISSIONCOMMONWEALTH EDISON COMPANYDOCKET NOS. STN 50-454, STN 50-455BYRON STATION, UNITS 1 AND 2ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

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

ENVIRONMENTAL ASSESSMENTIdentification of the Proposed Action:

The proposed action would exempt Byron Station, Units 1 and 2, from the requirements of 10 CFR 50.44, 10 CFR 50.46 and 10 CFR Part 50, Appendix K, to allow the use of two Lead Test Assemblies (LTA).

The proposed action is in accordance with the licensee's application of October 22, 1998.

The Need for the Proposed Action:

As the nuclear industry pursues longer operating cycles with increased fuel discharge burnups and more aggressive fuel management, the corrosion performance requirements for the nuclear fuel cladding becomes more demanding. Industry data indicates that corrosion resistance improves for cladding with a lower tin content. In addition, fuel rod internal pressures resulting from the increased fuel duty, use of Integral Fuel Burnable Absorbers and corrosion/temperature feedback effects have become more limiting with respect to fuel rod design criteria. By reducing the associated corrosion buildup and, thus, minimizing temperature feedback effects, additional margin to fuel rod internal pressure design criteria is obtained. As

part of a program to address these issues, Westinghouse Electric Company has developed an LTA program which includes a ZIRLO fuel cladding with a tin content lower than the currently licensed range for ZIRLO. 10 CFR 50.44, 10 CFR 50.46 and 10 CFR Part 50, Appendix K, make no provisions for use of fuel rods clad in a material other than Zircaloy or ZIRLO. The licensee has requested the use of an LTA with a tin composition that is less than the licensing basis for ZIRLO, as defined in Westinghouse design specifications. Therefore, use of the LTA requires exemptions from 10 CFR 50.44, 10 CFR 50.46 and 10 CFR Part 50. As part of this program, ComEd and Westinghouse propose to include two LTAs in the Byron Station, Unit 1, Cycle 10, core in non-limiting core locations during the refueling outage currently scheduled to begin March 27, 1999.

Environmental Impacts of the Proposed Action:

The Commission has completed its environmental evaluation of the proposed action and concludes that the proposed exemptions would not increase the probability or consequences of accidents previously analyzed and would not affect facility radiation levels or facility radiological effluents.

The proposed action will not increase the probability or consequences of accidents, no changes are being made in the types of any effluents that may be released off site, and there is no significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential non-radiological impacts, the proposed action does not involve any historic sites. It does not affect non-radiological plant effluents and has no other environmental impact. Therefore, there are no significant non-radiological environmental impacts associated with the proposed action.

Accordingly, the Commission concludes that there are no significant environmental impacts associated with the proposed action.

Alternatives to the Proposed Action:

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the "no-action" alternative). 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 for Byron Station, Units 1 and 2.

Agencies and Persons Consulted:

In accordance with its stated policy, on February 4, 1999, the staff consulted with the Illinois State official, Mr. Frank Niziolek, of the Illinois Department of Nuclear Safety, regarding the environmental impact of the proposed action. The State official had no comments.

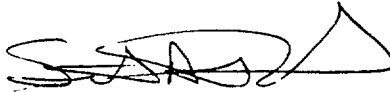
FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the Commission concludes 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 action.

For further details with respect to the proposed action, see the licensee's letter dated October 22, 1998, which is 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 located at the Byron Public Library District, 109 N. Franklin, P.O. Box 434, Byron, Illinois 61010.

Dated at Rockville, Maryland, this 22nd day of February 1999.

FOR THE NUCLEAR REGULATORY COMMISSION



Stuart A. Richards, Director
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation