

February 25, 1998

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
- REQUEST FOR EXEMPTION FROM 10 CFR 70.24 REGARDING CRITICALITY
ACCIDENT REQUIREMENTS, QUAD CITIES NUCLEAR POWER STATION,
UNITS 1 AND 2 (TAC NOS. M99945 AND M99946)

Dear Mr. Kingsley:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for exemption dated October 27, 1997. Your application requested an exemption from certain requirements of 10 CFR 70.24, "Criticality Accident Requirements."

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

Sincerely,

Original Signed by:

Robert M. Pulsifer, Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Docket Nos. 50-254 and 50-265

Enclosure: As stated

cc w/encl: See next page

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| DATE | 1/12/98 | | 1/12/98 | | 1/13/98 | | 2/1/98 | 2/25/98 | |

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

February 25, 1998

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Sincerely,

A handwritten signature in black ink, appearing to read "Robert M. Pulsifer", is written over the typed name.

Robert M. Pulsifer, Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Docket Nos. 50-254 and 50-265

Enclosure: As stated

cc w/encl: See next page

O. Kingsley
Commonwealth Edison Company

cc:

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Mr. Bill Franz (5)
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UNITED STATES NUCLEAR REGULATORY COMMISSIONCOMMONWEALTH EDISON COMPANYANDMIDAMERICAN ENERGY COMPANYDOCKET NOS. 50-254 AND 50-265QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2ENVIRONMENTAL ASSESSMENT AND FINDING OFNO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an exemption from certain requirements of its regulations to Facility Operating License Nos. DPR-29 and DPR-30, issued to Commonwealth Edison Company (the licensee), for operation of the Quad Cities Nuclear Power Station, Units 1 and 2, located in Rock Island County, Illinois.

ENVIRONMENTAL ASSESSMENTIdentification of the Proposed Action:

The proposed action would exempt the licensee from the requirements of 10 CFR 70.24, which requires in each area in which special nuclear material is handled, used, or stored a monitoring system that will energize clear audible alarms if accidental criticality occurs. The proposed action would also exempt the licensee from the requirements to maintain emergency procedures for each area in which this licensed special nuclear material is handled, used, or stored to ensure that all personnel withdraw to an area of safety upon the sounding of the alarm, to familiarize personnel with the evacuation plan, to designate responsible individuals for determining the cause of the alarm, and to place radiation survey instruments in accessible locations for use in such an emergency.

The proposed action is in accordance with the licensees' application for exemption dated October 27, 1997.

The Need for the Proposed Action:

The purpose of 10 CFR 70.24 is to ensure that if a criticality were to occur during the handling of special nuclear material, personnel would be alerted to that fact and would take appropriate action. At a commercial nuclear power plant, the inadvertent criticality with which 10 CFR 70.24 is concerned could occur during fuel handling operations. The special nuclear material that could be assembled into a critical mass at a commercial nuclear power plant is in the form of nuclear fuel; the quantity of other forms of special nuclear material that is stored onsite in any given location is small enough to preclude achieving a critical mass. Because the fuel is not enriched beyond 5.0 weight percent uranium-235, and because commercial nuclear plant licensees have procedures and features that are designed to prevent inadvertent criticality, the staff has determined that it is unlikely that an inadvertent criticality could occur due to the handling of special nuclear material at a commercial power reactor. Therefore, the requirements of 10 CFR 70.24 are not necessary to ensure the safety of personnel during the handling of special nuclear materials at commercial power reactors.

Environmental Impacts of the Proposed Action:

The Commission has completed its evaluation of the proposed action and concludes that inadvertent or accidental criticality will be precluded through compliance with the Quad Cities Technical Specifications, the design of the fuel storage racks providing geometric spacing of fuel assemblies in their storage locations, and administrative controls imposed on fuel handling procedures.

The proposed exemption would not result in an increase in the probability or consequences of accidents, affect radiological plant effluents, or cause any significant

occupational exposures. Therefore, there are no radiological impacts associated with the proposed exemption.

The proposed exemption would not result in a change in nonradiological effluents and will have no other nonradiological environmental impact.

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

Alternatives to the Proposed Action:

Since the Commission has concluded that there is no measurable environmental impact associated with the proposed action, any alternatives with equal or greater environmental impact need not be evaluated. As an alternative to the proposed exemption, the staff considered denial of the requested exemption. Denial of the request 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 the operation of Quad Cities dated September 1972.

Agencies and Persons Consulted:

In accordance with its stated policy, on January 16, 1990, the staff consulted with the Illinois State official, 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


Based upon 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 licensees' letter dated October 27, 1997, which is available for public inspection at the Commission's Public Document Room located at the Gelman Building, 2120 L Street, NW., Washington, DC, and at the local public document room located at the Dixon Public Library, 221 Hennepin Avenue, Dixon, Illinois 61021.

Dated at Rockville, Maryland, this 25 day of February 1998.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script, reading "Robert A. Capra".

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