

June 18, 1997

Mr. J. E. Cross
President-Generation Group
Duquesne Light Company
Post Office Box 4
Shippingport, PA 15077

SUBJECT: ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT
RELATED TO REQUEST FOR EXEMPTION FROM 10 CFR 70.24 CRITICALITY
ACCIDENT REQUIREMENTS - BEAVER VALLEY POWER STATION, UNIT NO. 1
(TAC NOS. M97469)

Dear Mr. Cross:

Enclosed for your information is a copy of an "Environmental Assessment and Finding of No Significant Impact" related to your application dated December 18, 1996, as supplemented by letters dated April 10 and June 11, 1997, which 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. Please contact me at (301) 415-1409 if you have any questions regarding this matter.

Sincerely,

original signed by Tilda Liu for
Donald S. Brinkman, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-334

Enclosure: Environmental Assessment

cc w/encl: See next page

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NAME	DBrinkman:cw	MO'Brien	DMatthews	CBarth	JStolz
DATE	6/18/97	6/18/97	06/11/97	06/13/97	6/18/97

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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Sincerely,

A handwritten signature in cursive script, appearing to read "Donald S. Brinkman".

Donald S. Brinkman, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-334

Enclosure: Environmental Assessment

cc w/encl: See next page

J. E. Cross
Duquesne Light Company

Beaver Valley Power Station
Units 1 & 2

cc:

Jay E. Silberg, Esquire
Shaw, Pittman, Potts & Trowbridge
2300 N Street, NW.
Washington, DC 20037

Director-Safety and Licensing
Department (BV-A)
Duquesne Light Company
Beaver Valley Power Station
PO Box 4
Shippingport, PA 15077

Commissioner Roy M. Smith
West Virginia Department of Labor
Building 3, Room 319
Capitol Complex
Charleston, WVA 25305

Director, Utilities Department
Public Utilities Commission
180 East Broad Street
Columbus, OH 43266-0573

Director, Pennsylvania Emergency
Management Agency
Post Office Box 3321
Harrisburg, PA 17105-3321

Ohio EPA-DERR
ATTN: Zack A. Clayton
Post Office Box 1049
Columbus, OH 43266-0149

Dr. Judith Johnsrud
National Energy Committee
Sierra Club
433 Orlando Avenue
State College, PA 16803

Duquesne Light Company
Beaver Valley Power Station
PO Box 4
Shippingport, PA 15077
ATTN: R. L. Grand, Division Vice
President, Nuclear Operations Group
and Plant Manager (BV-SOSB-7)

Bureau of Radiation Protection
Pennsylvania Department of
Environmental Resources
ATTN: Michael P. Murphy
Post Office Box 2063
Harrisburg, PA 17120

Mayor of the Borough of
Shippingport
Post Office Box 3
Shippingport, PA 15077

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Resident Inspector
U.S. Nuclear Regulatory Commission
Post Office Box 298
Shippingport, PA 15077

Duquesne Light Company
Beaver Valley Power Station
PO Box 4
Shippingport, PA 15077
ATTN: S. C. Jain, Vice President
Nuclear Services (BV-A)

Mr. Roy Denmark
Environmental Review Coordinator
841 Chestnut Street
Philadelphia, PA 19107

UNITED STATES NUCLEAR REGULATORY COMMISSIONDUQUESNE LIGHT COMPANYOHIO EDISON COMPANYPENNSYLVANIA POWER COMPANYDOCKET NO. 50-334BEAVER VALLEY POWER STATION, UNIT NO. 1ENVIRONMENTAL 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 for Facility Operating License No. DPR-66, issued to Duquesne Light Company, et al. (the licensee), for operation of the Beaver Valley Power Station, Unit No. 1 (BVPS-1), located in Beaver County, Pennsylvania.

ENVIRONMENTAL ASSESSMENTIdentification of Proposed Action:

The proposed action would exempt the licensee from the requirements of 10 CFR 70.24, which require a monitoring system that will energize clear audible alarms if accidental criticality occurs in each area in which special nuclear material is handled, used, or stored. 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, and 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 licensee's application for exemption dated December 18, 1996, as supplemented by letters dated April 10 and June 11, 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 on site is small enough to preclude achieving a critical mass. Because the fuel is not enriched beyond a nominal 5.0 weight percent Uranium-235 and because commercial nuclear plant licensees have procedures and design features that prevent inadvertent criticality, the staff has determined that an inadvertent criticality is highly unlikely as a result of the handling of special nuclear material at a commercial power reactor. The requirements of 10 CFR 70.24, therefore, 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 there is no significant environmental impact if the exemption is granted. Inadvertent or accidental criticality will be precluded through compliance with the BVPS-1 Technical Specifications (TSs), 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. TSs requirements specify reactivity limits for the fuel storage racks and minimum spacing between the fuel assemblies in the storage racks.

Appendix A of 10 CFR Part 50, "General Design Criteria for Nuclear Power Plants," Criterion 62, requires that the criticality in the fuel storage and handling system be prevented by physical systems or processes, preferably by use of geometrically-safe configurations. This is met at BVPS-1, as identified in the TSs and the Updated Final Safety Analysis Report (UFSAR). BVPS-1 TS 5.3.1.2 states that the new fuel storage racks are designed and shall be maintained with a nominal 21-inch center-to-center distance between fuel assemblies placed in the storage racks. This spacing requirement ensures that k_{eff} will be ≤ 0.95 if the loaded new fuel storage racks are flooded with unborated water and that k_{eff} will be ≤ 0.98 if the loaded new fuel storage racks are moderated by aqueous foam. UFSAR Section 9.12.1.1 (Prevention of Fuel Storage Criticality) states that new fuel assemblies will be stored dry and vertically in the new fuel storage racks with a minimum center-to-center spacing of 21-inches.

The proposed exemption would not result in any significant radiological impacts. The proposed exemption would not affect radiological plant effluents nor cause any significant occupational exposures since the TSs, design controls (including geometric spacing of fuel assembly storage spaces) and administrative controls preclude inadvertent criticality. The amount of radioactive waste would not be changed by the proposed exemption.

Accordingly, the Commission concludes that the proposed action would result in no significant radiological environmental impact.

The proposed exemption does not result in any significant non-radiological environmental impacts. The proposed exemption 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 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 for the Beaver Valley Power Station, Unit No. 1, dated July 1973.

Agencies and Persons Consulted:

In accordance with its stated policy, on June 3, 1997, the staff consulted with the Pennsylvania State official, Mr. Richard Janati of the

Bureau of Radiation Protection, Department of Environmental Protection, regarding the environmental impact of the proposed action. The State official had no comments.

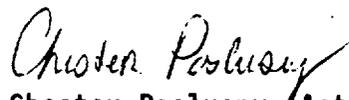
FINDING OF NO SIGNIFICANT IMPACT

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 licensee's letter dated December 18, 1996, as supplemented April 10 and June 11, 1997, which is available for public inspection at the Commission's Public Document Room, which is located at The Gelman Building, 2120 L Street, NW., Washington, DC, and at the local public document room located at the B. F. Jones Memorial Library, 663 Franklin Avenue, Aliquippa, Pennsylvania 15001.

Dated at Rockville, Maryland, this 18th day of June, 1997.

FOR THE NUCLEAR REGULATORY COMMISSION



Chester Poslusny, Acting Director
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation