

February 20, 2001

Mr. Charles H. Cruse  
Vice President - Nuclear Energy  
Calvert Cliffs Nuclear Power Plant, Inc.  
Calvert Cliffs Nuclear Power Plant  
1650 Calvert Cliffs Parkway  
Lusby, MD 20657-4702

SUBJECT: ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT  
REGARDING AN EXEMPTION FROM 10 CFR 50.44, 10 CFR 50.46, AND 10 CFR  
PART 50, APPENDIX K FOR LEAD FUEL ASSEMBLIES - CALVERT CLIFFS  
NUCLEAR POWER PLANT, UNIT NO. 2, (TAC NO. MB0008)

Dear Mr. Cruse:

Enclosed for your information is a copy of an "Environmental Assessment and Finding of No Significant Impact." This notice relates to your application dated September 14, 2000, as supplemented on December 21, 2000, in which Calvert Cliffs Nuclear Power Plant, Inc. requested a temporary exemption from 10 CFR 50.44, 10 CFR 50.46, and 10 CFR Part 50, Appendix K to allow a lead fuel assembly containing fuel rods with advanced cladding materials to be inserted into the Unit 2 core during the upcoming refueling outage and remain in the core for Cycle 14. The enclosed assessment relates to the requested temporary exemption.

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

Sincerely,

*/RA/*

Donna Skay, Project Manager, Section 1  
Project Directorate 1  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-318

Enclosure: Environmental Assessment

cc w/encl: See next page

Mr. Charles H. Cruse  
Vice President - Nuclear Energy  
Calvert Cliffs Nuclear Power Plant, Inc.  
Calvert Cliffs Nuclear Power Plant  
1650 Calvert Cliffs Parkway  
Lusby, MD 20657-4702

February 20, 2001

SUBJECT: ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT  
REGARDING AN EXEMPTION FROM 10 CFR 50.44, 10 CFR 50.46, AND 10 CFR  
PART 50, APPENDIX K FOR LEAD FUEL ASSEMBLIES - CALVERT CLIFFS  
NUCLEAR POWER PLANT, UNIT NO. 2, (TAC NO. MB0008)

Dear Mr. Cruse:

Enclosed for your information is a copy of an "Environmental Assessment and Finding of No Significant Impact." This notice relates to your application dated September 14, 2000, as supplemented on December 21, 2000, in which Calvert Cliffs Nuclear Power Plant, Inc. requested a temporary exemption from 10 CFR 50.44, 10 CFR 50.46, and 10 CFR Part 50, Appendix K to allow a lead fuel assembly containing fuel rods with advanced cladding materials to be inserted into the Unit 2 core during the upcoming refueling outage and remain in the core for Cycle 14. The enclosed assessment relates to the requested temporary exemption.

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

Sincerely,

*/RA/*

Donna Skay, Project Manager, Section 1  
Project Directorate 1  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-318

Enclosure: Environmental Assessment  
cc w/encl: See next page

Distribution:

PUBLIC	S. Little
PDI-1 Reading	OGC
M.Gamberoni	ACRS
D. Skay	L. Doerflein, RI

ACCESSION NUMBER: ML010190498

OFFICE	PM:PD1	LA:PD1	RGEB	OGC	SC:PD1
NAME	D. Skay	S. Little	C. Carpenter	R. Weisman	PTam for M. Gamberoni
DATE	1/22/01	1/25/01	1/29/01	2/13/01	2/16/01

Official Record Copy

UNITED STATES NUCLEAR REGULATORY COMMISSION

CALVERT CLIFFS NUCLEAR POWER PLANT, INC.

DOCKET NO. 50-318

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 2

ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of a temporary exemption from the provisions of 10 CFR 50.44, 10 CFR 50.46, and Appendix K to 10 CFR Part 50 for Renewed Facility Operating License No. DPR-69 issued to Calvert Cliffs Nuclear Power Plant, Inc. (CCNPPI or the licensee) for operation of the Calvert Cliffs Nuclear Power Plant, Unit 2 (CCNPP2) located in Calvert County, Maryland.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

The proposed action would allow the licensee to use a lead fuel assembly with a limited number of fuel rods with advanced cladding material, a zirconium-based alloy, that does not meet the definition of Zircaloy or ZIRLO, which are referred to in Title 10 of the *Code of Federal Regulations*. The lead fuel assembly is scheduled to be loaded into the CCNPP2 reactor core during the upcoming refueling outage and would remain in the core for Cycle 14. The proposed action is in accordance with the licensee's application for exemption dated September 14, 2000, as supplemented on December 21, 2000.

The Need for the Proposed Action:

The proposed temporary exemption from 10 CFR 50.44, 10 CFR 50.46, and Appendix K

to 10 CFR Part 50 is needed because these regulations specifically refer to light-water reactors containing fuel consisting of uranium oxide pellets enclosed in zircaloy or ZIRLO tubes. A new zirconium-based alloy cladding has been developed, which is not the same chemical composition as zircaloy or ZIRLO. Therefore, the licensee needs an exemption to insert an assembly containing fuel rods with the new cladding material into the CCNPP2 reactor core and test it during power operation.

Environmental Impacts of the Proposed Action:

The NRC has completed its evaluation of the proposed action and concludes that, with regard to potential radiological impacts to the general public, the proposed temporary exemption involves features located entirely within the restricted area as defined in 10 CFR Part 20. The lead fuel assembly, with the zirconium-based alloy cladding, meets the same design basis as the Zircaloy-4 fuel that is currently in the CCNPP2 reactor core. No safety limits will be changed or setpoints altered as a result of using the lead fuel assembly. The Updated Final Safety Analysis Report analyses are bounding for the lead fuel assembly as well as the remainder of the core. The mechanical properties and behavior of the lead fuel assembly during postulated loss-of-coolant-accidents (LOCAs) and non-LOCA transients and operational transients will be essentially the same as those for the current fuel. In addition, the lead fuel assembly represents a small portion of the total core and will be placed in a non-limiting location.

The proposed action will not significantly 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 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. The proposed action does not involve any historic sites. Therefore, there are no significant nonradiological environmental impacts associated with the proposed action.

Accordingly, the NRC 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 exemption 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 CCNPP2.

Agencies and Persons Contacted:

In accordance with its stated policy, on January 18, 2001, the staff consulted with the Maryland State official, Mr. Richard McLean of the Department of Natural Resources, 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 NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed exemption.

For further details with respect to this action, see the licensee's letters dated September 14, 2000, and December 21, 2000, which are available for public inspection at the Commission's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the ADAMS Public Library component on the NRC Web site, <http://www.nrc.gov> (the Electronic Reading Room).

Dated at Rockville, Maryland, this 20 day of February 2001.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

Donna M. Skay, Project Manager, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Calvert Cliffs Nuclear Power Plant  
Unit Nos. 1 and 2

President  
Calvert County Board of  
Commissioners  
175 Main Street  
Prince Frederick, MD 20678

James P. Bennett, Esquire  
Counsel  
Constellation Energy Group  
P.O. Box 1475  
Baltimore, MD 21203

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

Mr. Bruce S. Montgomery, Director  
NRM  
Calvert Cliffs Nuclear Power Plant  
1650 Calvert Cliffs Parkway  
Lusby, MD 20657-4702

Resident Inspector  
U.S. Nuclear Regulatory  
Commission  
P.O. Box 287  
St. Leonard, MD 20685

Mr. Richard I. McLean, Manager  
Nuclear Programs  
Power Plant Research Program  
Maryland Dept. of Natural Resources  
Tawes State Office Building, B3  
Annapolis, MD  
21401

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

Mr. Joseph H. Walter, Chief Engineer  
Public Service Commission of  
Maryland  
Engineering Division  
6 St. Paul Centre  
Baltimore, MD 21202-6806

Kristen A. Burger, Esquire  
Maryland People's Counsel  
6 St. Paul Centre  
Suite 2102  
Baltimore, MD 21202-1631

Patricia T. Birnie, Esquire  
Co-Director  
Maryland Safe Energy Coalition  
P.O. Box 33111  
Baltimore, MD 21218

Mr. Loren F. Donatell  
NRC Technical Training Center  
5700 Brainerd Road  
Chattanooga, TN 37411-4017

Bill Hoffman (5)  
Environmental Review Coordinator  
U.S. EPA Region 3  
1650 Arch Street  
Philadelphia, PA 19106-2029