May 3, 2000

Mr. John K. Wood
Vice President - Nuclear, Perry
FirstEnergy Nuclear Operating Company
P.O. Box 97, A200
Perry, OH 44081

SUBJECT: PERRY NUCLEAR POWER PLANT - ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT REGARDING POWER UPRATE (TAC NO. MA6459)

Dear Mr. Wood:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for amendment dated September 9, 1999 (PY-CEI/NRR-2420L), as supplemented on March 1 (PY-CEI/NRR-2470L), and March 13 (PY-CEI/NRR-2477L), 2000. The proposed amendment would increase the maximum reactor core power level to 3758 megawatts, an increase of five percent of rated core thermal power for the Perry Nuclear Power Plant.

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

Sincerely,

/RA/

Douglas V. Pickett, Senior Project Manager, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-440

Enclosure: Environmental Assessment

cc w/encl: See next page

May 3, 2000

Mr. John K. Wood
Vice President - Nuclear, Perry
FirstEnergy Nuclear Operating Company
P.O. Box 97, A200
Perry, OH 44081

SUBJECT: PERRY NUCLEAR POWER PLANT - ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT REGARDING POWER UPRATE (TAC NO. MA6459)

Dear Mr. Wood:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for amendment dated September 9, 1999 (PY-CEI/NRR-2420L), as supplemented on March 1 (PY-CEI/NRR-2470L), and March 13 (PY-CEI/NRR-2477L), 2000. The proposed amendment would increase the maximum reactor core power level to 3758 megawatts, an increase of five percent of rated core thermal power for the Perry Nuclear Power Plant.

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

Sincerely,

/RA/

Douglas V. Pickett, Senior Project Manager, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-440

Enclosure: Environmental Assessment

cc w/encl: See next page

DISTRIBUTION:
PUBLIC
PDIII/2 r/f
GGrant, R3
OGC
ACRS

ACCESSION NO. ML003710341

To receive a copy of this document, indicate in the box: "C" = Copy without enclosures **"E"** = Copy with enclosures **"N"** = No copy

OFFICE	PM:LPD3	E	LA:LPD3	E	RGEB	E	OGC Subject		SC:LPD3	E
NAME	D Pickett		T Harris		BZalcman for CCARPENTER		STurk to noted		AMENDIOLA	
DATE	04/11/00		04/11/00		04/16/00		04/27/00 changes		05/02/00	

OFFICIAL RECORD COPY

cc:

Mary E. O'Reilly
FirstEnergy Corporation
76 South Main St.
Akron, OH 44308

Resident Inspector's Office
U.S. Nuclear Regulatory Commission
P.O. Box 331
Perry, OH 44081-0331

Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
801 Warrenville Road
Lisle, IL 60532-4531

Sue Hiatt
OCRE Interim Representative
8275 Munson
Mentor, OH 44060

Gregory A. Dunn
Manager - Regulatory Affairs
FirstEnergy Nuclear Operating Company
Perry Nuclear Power Plant
P.O. Box 97, A210
Perry, OH 44081

William R. Kanda, Jr., Plant Manager
FirstEnergy Nuclear Operating Company
Perry Nuclear Power Plant
P.O. Box 97, SB306
Perry, OH 44081

Mayor, Village of North Perry
North Perry Village Hall
4778 Lockwood Road
North Perry Village, OH 44081

Donna Owens, Director
Ohio Department of Commerce
Division of Industrial Compliance
Bureau of Operations & Maintenance
6606 Tussing Road
P. O. Box 4009
Reynoldsburg, OH 43068-9009

James R. Williams, Executive Director
Ohio Emergency Management Agency
2855 West Dublin Granville Road
Columbus, OH 43235-7150

Mayor, Village of Perry
P.O. Box 100
Perry, OH 44081-0100

Harvey B. Brugger, Supervisor
Radiological Assistance Section
Bureau of Radiation Protection
Ohio Department of Health
P.O. Box 118
Columbus, OH 43266-0118

Ohio Environmental Protection
Agency
DERR--Compliance Unit
ATTN: Mr. Zack A. Clayton
P.O. Box 1049
Columbus, OH 43266-0149

Chairman
Perry Township Board of Trustees
3750 Center Road, Box 65
Perry, OH 44081

State of Ohio
Public Utilities Commission
East Broad Street
Columbus, OH 43266-0573

Ms. Sherry Kamke, Acting
Environmental Review Coordinator
77 West Jackson Blvd.
Chicago, IL 60604-3507

UNITED STATES NUCLEAR REGULATORY COMMISSION

FIRSTENERGY NUCLEAR OPERATING COMPANY

DOCKET NO. 50-440

PERRY NUCLEAR POWER PLANT, UNIT 1

ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an amendment to Facility Operating License No. NPF-58, issued to FirstEnergy Nuclear Operating Company (FENOC), for operation of the Perry Nuclear Power Plant, Unit 1 (Perry), located in Lake County, Ohio.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

The proposed action would allow FENOC to increase the maximum reactor core power level for facility operation from 3579 megawatts-thermal (MWt) to 3758 MWt, which is a five percent increase in rated core power.

The proposed action is in accordance with FENOC's application for amendment dated September 9, 1999, as supplemented by letters dated March 1 and March 13, 2000.

Need for the Proposed Action:

The proposed action is needed to allow FENOC to increase the electrical output of the Perry facility and, thus, provide additional electrical power to service domestic and commercial areas of the licensee's grid.

Environmental Impacts of the Proposed Action:

FENOC has submitted an environmental evaluation supporting the proposed power uprate and provided a summary of its conclusions concerning both the radiological and non-radiological environmental impacts of the proposed action. Based on the NRC's independent analyses and the evaluation performed by the licensee, the staff concludes that the proposed increase in power is not expected to result in a significant environmental impact.

Radiological Environmental Assessment:

Radwaste Systems

The reactor coolant contains activated corrosion products, which are the result of metallic materials entering the water and being activated in the reactor region. Under power uprate conditions, the feedwater flow increases with power and the activation rate in the reactor region increases with power. The net result may be an increase in the activated corrosion product production. However, the total volume of processed waste is not expected to increase appreciably.

Non-condensible radioactive gas from the main condenser, along with air inleakage, normally contains activation gases (principally N-16, O-19 and N-13) and fission product radioactive noble gases. This is the major source of radioactive gas (greater than all other sources combined). These non-condensible gases, along with non-radioactive air, are continuously removed from the main condensers which discharge into the offgas system. The gaseous effluents will remain within the original limits following implementation of power uprate.

FENOC has concluded that the operation of the radwaste systems at Perry will not be impacted by operation at uprated power conditions and the slight increase in effluents discharged would continue to meet the requirements of 10 CFR Part 20 and 10 CFR Part 50, Appendix I. Therefore, power uprate will not appreciably affect the ability to process liquid or

gaseous radioactive effluents and there are no significant environmental effects from radiological releases.

Dose Consideration

FENOC evaluated the effects of power uprate on the radiation sources within the plant and the radiation levels during normal and post-accident conditions. Post-operation radiation levels in most areas of the plant are expected to increase by no more than the percentage increase in power level. In a few areas near the reactor water piping and liquid radwaste equipment, the increase could be slightly higher. In this regard, procedural controls are expected to compensate for increased radiation levels. Occupational doses for normal operations will be maintained within acceptable limits by the site ALARA (as-low-as-reasonably-achievable) program.

Power uprate does not involve significant increases in the offsite doses to the public from noble gases, airborne particulates, iodine, tritium, or liquid effluents. A review of the normal radiological effluent doses shows that at the current power level, doses are less than 1 percent of the doses allowed by Technical Specifications. Present offsite radiation levels are a negligible portion of background radiation. Therefore, the normal offsite doses are not significantly affected by operation at the uprated power level and remain below the limits of 10 CFR Part 20 and 10 CFR Part 50, Appendix I.

The change in core inventory resulting from power uprate is expected to increase post-accident radiation levels by no more than the percentage increase in power level. The licensee reanalyzed the control rod drop accident, the loss-of-coolant accident, the fuel handling accident, the instrument line break accident, and the main steam line break accident for power uprate conditions. The slight increase in the post-accident radiation levels has no significant effect on the plant nor on the habitability of the control room envelope, the Emergency Operations Facility, or the Technical Support Center. Thus, the licensee has determined that

access to areas requiring post-accident occupancy will not be significantly affected by power uprate. The licensee evaluated the whole body and thyroid doses at the exclusion area boundary that might result from the postulated design basis loss-of-coolant accident and determined that doses remain below established regulatory limits. Therefore, the results of the radiological analyses remain below the 10 CFR Part 100 guidelines and all radiological safety margins are maintained.

Summary

The proposed power uprate will not significantly increase the probability or consequences of accidents, will not involve any new radiological release pathways, will not result in a significant increase in occupational or public radiation exposure, and will not result in significant additional fuel cycle environmental impacts. Accordingly, the Commission concludes that there are no significant radiological environmental impacts associated with the proposed action.

Non-Radiological Environmental Assessment:

The licensee reviewed the non-radiological environmental impacts of power uprate based on information submitted in the Environmental Report, Operating License Stage (ER/OL), the NRC Final Environmental Statement (FES), and the requirements of the Environmental Protection Plan (EPP). Based on this review, the licensee concluded that the proposed uprate has no significant effect on the non-radiological elements of concern and the plant will be operated in an environmentally acceptable manner as established by the FES. In addition, the licensee states that existing Federal, State, and local regulatory permits presently in effect accommodate power uprate without modification.

The service water system at Perry was originally designed to support the operation of two units. Therefore, the design discharge temperature into Lake Erie is based on two unit operation. As a result of power uprate to 105 percent of current licensed core power, there will

be a slight increase in the normal heat loads rejected to the plant service water system. For normal operation, the maximum service water heat loads occur during peak summer months. The licensee calculates that the maximum summer discharge temperature for the service water system will be increased by 0.34°F, or from 90.1°F to 90.44°F. This increase in service water temperature will not exceed the original design discharge temperature.

The effect on cooling tower evaporation, makeup, and blowdown was evaluated and found to be acceptable. An increase in steam and condensate flow will result in a corresponding increase in the net heat rejection to the cooling tower. The cooling tower evaporation is calculated to increase from 14,554 gallons per minute (gpm) to 15,587 gpm, whereas the cooling tower drift and blowdown temperature are predicted to remain unchanged. In NUREG-0884 (Final Environmental Statement Related to the Operation of Perry Nuclear Power Plant, Units 1 and 2), the staff concluded that cooling tower induced icing and fogging with two cooling towers in operation would not adversely affect driving conditions, airports, shipping ports, or waterways in the vicinity of the plant. Considering that only one unit was completed at the Perry site, any increase in icing and fogging from the additional cooling tower evaporation would be bounded by the original two-unit analyses. There are no state regulated limits for cooling tower parameters.

FENOC determined that the effects of power uprate on air and land resources are negligible. The aesthetics of the physical plant and plant site, as well as actual land use, are not changed or increased by power uprate. An increase in operational consumption of natural resources is negligible and below the levels previously evaluated for two unit operation. Finally, air quality and noise levels remain the same as before the power uprate.

With regard to potential non-radiological impacts, the proposed action does not change the method of operation at Perry or the methods of handling effluents. No changes to land use would result and the proposed action does not involve any historic sites. Therefore, no new or

different types of non-radiological environmental impacts are expected. Accordingly, the Commission concludes that there are no significant non-radiological 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 but would reduce the operational flexibility that would be afforded by the proposed change. The environmental impacts of the proposed action and the alternative action are not significantly different.

Alternative Use of Resources:

This action does not involve the use of any resources not previously considered in the Final Environmental Statement for Perry.

Agencies and Persons Consulted:

In accordance with its stated policy, on May 1, 2000, the staff consulted with the Ohio State official, Ms. Carol O'Claire, of the Ohio Emergency Management Agency, 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 September 9, 1999, as supplemented on March 1 and March 13, 2000, which are available for public inspection at the Commission's Public Document Room, The Gelman Building, 2120 L

Street, NW., Washington, DC, and accessible electronically through the ADAMS Public Electronic Reading Room link at the NRC Web site (http://www.nrc.gov).

Dated at Rockville, Maryland this 3rd day of May 2000.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Anthony J. Mendiola, Chief, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation