

May 2, 1997

Mr. Robert G. Byram
Senior Vice President-Nuclear
Pennsylvania Power and Light Company
2 North Ninth Street
Allentown, PA 18101

SUBJECT: ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT
APPROVAL OF USE OF ATRIUM-10 FUEL, SUSQUEHANNA STEAM ELECTRIC
STATION, UNIT 2 (TAC NO. M97499)

Dear Mr. Byram:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for an amendment to Facility Operating License No. NPF-22 dated December 18, 1996, as supplemented by letters dated February 26, 1997, March 12 and 27, April 3, 9, 16, 18, and 24, 1997, to permit the use of ATRIUM-10 Fuel in Susquehanna Steam Electric Station, Unit 2, for all operational conditions.

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

Sincerely,

/s/

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

Docket No. 50-388

Enclosure: Environmental Assessment

cc w/encl: See next page

DISTRIBUTION: JStolz
Docket File CPoslusny
PUBLIC MO'Brien
PDI-2 r/f OGC, O-15B18
SVarga ACRS, TWF
JZwolinski WPasciak, RI

NRC FILE CENTER COPY

DFD1/1

*Previously Concurred

OFFICE	PDI-2/PA	PDI-2/LA	PRPB/BC *	OGC <i>may nld</i>	PDI-2/D
NAME	CPoslusny:cw	MO'Brien <i>ETD</i>	CMiller	<i>Myung</i>	JStolz
DATE	5/1/97	5/1/97	05/02/97	5/2/97	5/2/97

OFFICIAL RECORD COPY
DOCUMENT NAME: SU97499.EA

9705090108 970502
PDR ADOCK 05000388
PDR



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

May 2, 1997

Mr. Robert G. Byram
Senior Vice President-Nuclear
Pennsylvania Power and Light Company
2 North Ninth Street
Allentown, PA 18101

SUBJECT: ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT
APPROVAL OF USE OF ATRIUM-10 FUEL, SUSQUEHANNA STEAM ELECTRIC
STATION, UNIT 2 (TAC NO. M97499)

Dear Mr. Byram:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for an amendment to Facility Operating License No. NPF-22 dated December 18, 1996, as supplemented by letters dated February 26, 1997, March 12 and 27, April 3, 9, 16, 18, and 24, 1997, to permit the use of ATRIUM-10 Fuel in Susquehanna Steam Electric Station, Unit 2, for all operational conditions.

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

Sincerely,

A handwritten signature in cursive script, reading "Chester Poslusny", is written above the typed name.

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

Docket No. 50-388

Enclosure: Environmental Assessment

cc w/encl: See next page

Mr. Robert G. Byram
Pennsylvania Power & Light Company

Susquehanna Steam Electric Station,
Units 1 & 2

cc:

Jay Silberg, Esq.
Shaw, Pittman, Potts & Trowbridge
2300 N Street N.W.
Washington, D.C. 20037

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

Bryan A. Snapp, Esq.
Assistant Corporate Counsel
Pennsylvania Power & Light Company
2 North Ninth Street
Allentown, Pennsylvania 18101

Mr. George Kuczynski
Plant Manager
Susquehanna Steam Electric Station
Pennsylvania Power and Light Company
Box 467
Berwick, Pennsylvania 18603

Mr. J. M. Kenny
Licensing Group Supervisor
Pennsylvania Power & Light Company
2 North Ninth Street
Allentown, Pennsylvania 18101

Mr. Herbert D. Woodeshick
Special Office of the President
Pennsylvania Power and Light Company
Rural Route 1, Box 1797
Berwick, Pennsylvania 18603

Mr. K. Jenison
Senior Resident Inspector
U. S. Nuclear Regulatory Commission
P.O. Box 35
Berwick, Pennsylvania 18603-0035

George T. Jones
Vice President-Nuclear Operations
Pennsylvania Power and Light Company
2 North Ninth Street
Allentown, Pennsylvania 18101

Mr. William P. Dornsife, Director
Bureau of Radiation Protection
Pennsylvania Department of
Environmental Resources
P. O. Box 8469
Harrisburg, Pennsylvania 17105-8469

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

Mr. Jesse C. Tilton, III
Allegheny Elec. Cooperative, Inc.
212 Locust Street
P.O. Box 1266
Harrisburg, Pennsylvania 17108-1266

Chairman
Board of Supervisors
738 East Third Street
Berwick, PA 18603

Roy Denmark (5 copies)
Environmental Review Coordinator
841 Chestnut Street
Philadelphia, PA 19107

UNITED STATES NUCLEAR REGULATORY COMMISSIONPENNSYLVANIA POWER AND LIGHT COMPANY50-388SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 2ENVIRONMENTAL ASSESSMENT AND FINDING OFNO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. NPF-22, issued to Pennsylvania Power and Light Company (the licensee), for operation of the Susquehanna Steam Electric Station, located in Luzerne County, PA.

ENVIRONMENTAL ASSESSMENTIdentification of the Proposed Action:

The proposed action would change the Technical Specifications for the unit to permit the use of ATRIUM-10 fuel in the reactor. The changes include core flow dependent minimum critical power ratio (MCPR) Safety Limits in Sections 2.1.2 and 3.4.1.1.2, addition of Siemens Power Corporation (SPC) methodology topical report references in Section 6.9.3.2, changes in Section 5.3.1 to reflect new fuel design features, changes in definitions in Section 1 to reflect the new fuel design, and changes to the Bases to correspond to the above changes as appropriate.

The proposed action is in accordance with the licensee's application for amendment dated December 18, 1996, as supplemented by letters dated February 26, 1997, March 12 and 27, April 3, 9, 16, 18, and 24, 1997.

The Need for the Proposed Action:

The proposed action will enable the licensee to complete its maintenance

4P

~~9705060077~~

and refueling outage on this unit and begin a new fuel cycle which will include a portion of the core consisting of the new ATRIUM-10 nuclear fuel.

Environmental Impacts of the Proposed Action:

The Commission has completed its evaluation of the proposed action and concludes that it is acceptable. The safety considerations associated with the use of the ATRIUM-10 fuel in the Susquehanna Steam Electric Station, Unit 2, have been evaluated by the NRC staff and the staff has concluded that this change in the reactor fuel design would not adversely affect plant safety. The proposed change to the fuel design has no adverse effect on the probability of any accident previously analyzed. The increase in fuel enrichment from 4.0% versus 4.5% for an increased fuel cycle of 24 months results in an increase in the projected maximum burnup rate or discharge exposure from the current 45 to 48 MWd/kgU. This increased burnup may slightly change the mix of fission products that might be released in the event of a serious accident, but such changes would not significantly affect the consequences of serious accidents. Routine radiological effluents are not affected. As a result, there is no increase in individual or cumulative radiation exposure.

The environmental impacts of transportation resulting from the use of higher enrichment and extended irradiation are discussed in the staff assessment entitled, "NRC Assessment of the Environmental Effects of Transportation Resulting from Extended Fuel Enrichment and Irradiation." This assessment was published in the FEDERAL REGISTER on August 11, 1988 (53 FR 30355), as corrected on August 24, 1988 (53 FR 32322), in connection with the Shearon Harris Nuclear Power Plant, Unit 1: Environmental Assessment

and Finding of No Significant Impact. As indicated therein, the environmental cost contribution of an increase in fuel enrichment of up to 5 weight percent U-235 and irradiation limits of up to 60 Gigawatt Days per Metric Ton (Gwd/MT) are either unchanged, or may in fact be reduced from those summarized in Table S-4 as set forth in 10 CFR 51.52(c). These findings are applicable to the proposed increase in the allowable exposure of SPC ATRIUM-10 fuel for Susquehanna, Unit 2. Accordingly, the Commission concludes that this proposed action would result in no significant radiological environmental impact.

With regard to potential nonradiological impacts, the proposed change will in no way affect environs located outside the restricted area as defined in 10 CFR Part 20. It does not affect nonradiological plant effluents and has no other environmental impact. Therefore, the Commission concludes that there are no significant nonradiological environmental impacts associated with the proposed change in the fuel exposure limit and the use of the new fuel design.

Alternatives to the Proposed Action:

Since the Commission has concluded 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 action, the staff considered denial of the proposed action. 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 the Susquehanna Steam

Electric Station, Unit 2.

Agencies and Persons Consulted:

In accordance with its stated policy, on May 1, 1997, NRC staff consulted with the Pennsylvania State official, R. Maiers of the Pennsylvania Department of Environmental Protection, regarding the environmental impact of the proposed action. The State official had no comments.

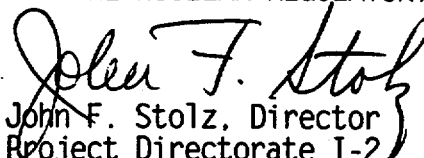
FINDING OF NO SIGNIFICANT IMPACT

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 by letters dated February 26, 1997, March 12 and 27, April 3, 9, 16, 18, and 24, 1997, which are 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 Osterhout Free Library, Reference Department, 71 South Franklin Street, Wilkes-Barre, Pennsylvania 18701.

Dated at Rockville, Maryland, this 2nd day of May 1997.

FOR THE NUCLEAR REGULATORY COMMISSION



John F. Stolz, Director
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation