

May 11, 1993

Mr. George A. Hunger, Jr.  
Manager-Licensing, MC 52A-5  
Philadelphia Electric Company  
Nuclear Group Headquarters  
Correspondence Control Desk  
P.O. Box No. 195  
Wayne, Pennsylvania 19087-0195

Dear Mr. Hunger:

SUBJECT: ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT  
REGARDING THE TRANSFER OF THE SHOREHAM FUEL TO THE LIMERICK SITE,  
LIMERICK GENERATING STATION, UNITS 1 AND 2 (TAC NOS. M85941  
AND M85942)

This environmental assessment was written in response to your license amendment application dated March 8, 1993. The amendment application requests that the licensee be allowed to receive and possess, but not separate, such source, byproduct, and special nuclear materials as contained in the fuel assemblies and fuel channels from the Shoreham Nuclear Power Station at the Limerick site.

We have enclosed a copy of the Environmental Assessment and Finding of No Significant Impact for this proposed amendment which is being forwarded to the Office of the Federal Register for publication.

Sincerely,

/s/

Frank Rinaldi, Acting Project Manager  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosure:  
Environmental Assessment

cc w/enclosure:  
See next page

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ACRS (10)  
OPA

PDI-2/A <i>[Signature]</i>	PDI-2/PM <i>[Signature]</i>	IMTB/NMSS <i>[Signature]</i>	PRPB/DRSS <i>[Signature]</i>	OGC <i>[Signature]</i>	PDI-2/D <i>[Signature]</i>
MO'Brien <i>[Signature]</i>	FRinaldi:rb <i>[Signature]</i>	CMacDonald <i>[Signature]</i>	Bunningham <i>[Signature]</i>	<i>[Signature]</i>	CMiller <i>[Signature]</i>
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

May 11, 1993

Docket Nos. 50-352  
and 50-353

Mr. George A. Hunger, Jr.  
Manager-Licensing, MC 52A-5  
Philadelphia Electric Company  
Nuclear Group Headquarters  
Correspondence Control Desk  
P.O. Box No. 195  
Wayne, Pennsylvania 19087-0195

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We have enclosed a copy of the Environmental Assessment and Finding of No Significant Impact for this proposed amendment which is being forwarded to the Office of the Federal Register for publication.

Sincerely,

A handwritten signature in cursive script, appearing to read "Frank Rinaldi".

Frank Rinaldi, Acting Project Manager  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosure:  
Environmental Assessment

cc w/enclosure:  
See next page

Mr. George A. Hunger, Jr.  
Philadelphia Electric Company

Limerick Generating Station,  
Units 1 & 2

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UNITED STATES NUCLEAR REGULATORY COMMISSION  
PHILADELPHIA ELECTRIC COMPANY  
LIMERICK GENERATING STATION, UNITS 1 AND 2  
DOCKET NOS. 50-352 AND 50-353  
ENVIRONMENTAL ASSESSMENT AND  
FINDING OF NO SIGNIFICANT IMPACT

The U. S. Nuclear Regulatory Commission (the Commission) is considering issuance of amendments to Facility Operating License Nos. NPF-39 and NPF-85, issued to Philadelphia Electric Company (PECo or the licensee), for operation of the Limerick Generating Station (LGS), Units 1 and 2, located in Montgomery County, Pennsylvania.

ENVIRONMENTAL ASSESSMENT

Identification of Proposed Action:

The proposed amendments would allow the licensee to receive and possess, but not separate, such source, byproduct, and special nuclear materials as contained in the fuel assemblies and fuel channels from the Shoreham Nuclear Power Station (SNPS) at the Limerick site.

The proposed action is in accordance with the licensee's application for amendments dated March 8, 1993. The proposed changes have been evaluated against the criteria in 10 CFR 51.21 for the identification of licensing and regulatory actions requiring an environmental assessment. We have concluded that the proposed changes do not meet the criteria for categorical exclusion as defined in 10 CFR 51.22(c)(9). Therefore, in accordance with the requirements in 10 CFR 51.30, the following information is being provided to support an Environmental Assessment.

Need for the Proposed Action:

The proposed change to the Facility Operating Licenses is requested to permit the transfer of the SNPS slightly irradiated fuel assemblies and fuel channels to the LGS site. Currently, the license provides, "pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility." The proposed action would modify this license condition by adding the phrase "and to receive and possess, but not separate, such source, byproduct and special nuclear materials as contained in the fuel assemblies and fuel channels from the Shoreham Nuclear Power Station." The proposed action would thus allow LGS to receive the subject assemblies.

Environmental Impacts of the Proposed Action:

The approval of the proposed change to the LGS operating licenses will result in no significant effect on the human environment and does not alter any initial conditions assumed for the design basis accidents previously evaluated nor change operation of safety systems utilized to mitigate the design basis accidents. This conclusion considers the potential impact of: normal transport and transportation accidents, the uranium fuel cycle, radioactive effluents, low level radioactive waste, and, occupational exposure.

The impact of the transportation of the slightly irradiated fuel from the SNPS site to the LGS site is minimal. Table S-4 of 10 CFR 51.52, "Environmental Impact of Transportation of Fuel and Waste To and From One Light-Water-Cooled Nuclear Power Reactor," addresses the impact of

transporting irradiated fuel and radioactive waste including normal transport and possible accidents. The proposed shipments meet the conditions specified in 10 CFR 51.52(a) since it does not (a) exceed 4 percent enrichment, (b) exceed an average irradiation level of 33,000 megawatt days-per-metric-ton, (c) come from a reactor with a power level in excess of 3800 megawatts and is not being shipped less than 90 days after discharge. Therefore, the environmental impact of the proposed shipments is as set forth in Table S-4. In any event, the low level of radiation and the substantial elapsed time since the low power operation of the SNPS fuel make the assumptions used in Table S-4 conservative relative to the proposed shipments. Therefore, Table S-4 bounds the environmental impact of the transportation of the SNPS fuel.

The impact of the transfer of SNPS fuel to LGS on the uranium fuel cycle is neutral or positive. The NRC's original evaluation of this type of impact is documented in NUREG-0974, "Final Environmental Statement Related to the Operation of Limerick Generating Station, Units 1 and 2," dated April 1984. NUREG-0974 used 10 CFR 51.51, "Uranium Fuel Cycle Environmental Data -- Table S-3," to assess the effect of the uranium fuel cycle on the operation of LGS Unit 1 and Unit 2. Transfer of the slightly irradiated SNPS fuel to LGS and the subsequent future use of this fuel results in a reduction in the total amount of uranium mined and fabricated into fuel and a reduction in the amount of spent fuel that will eventually be stored at a Federal high-level waste repository. Therefore, with regard to the uranium fuel cycle, the evaluation in NUREG-0974 remains unchanged.

The impact on the radioactive effluents discharged from the LGS site is neutral, whether or not the SNPS fuel is used. The shipment of the SNPS fuel assemblies will meet the packaging and shipping criteria required for shipments of new fuel, so there will be no increase in fuel failure probability due to the shipping process. Specifically, an increase in fuel failures either due to shipping effects on the fuel or the design of the fuel is not likely as a result of the shipping criteria and inspections that will be employed. Finally, no increase in radioactive liquid and gaseous effluents is expected as a result of the receipt, unpacking, and inspection of the SNPS fuel.

The impact of the transfer of SNPS fuel to LGS on the generation of low-level radioactive waste will be low. Solid waste in the form of Dry Active Waste (DAW) including fuel assembly packaging materials will be shipped offsite for volume reduction and disposal. The volume of DAW will be minimized, wherever possible, by the re-use of packaging and shipping material for the multiple shipments required to transfer all of the SNPS fuel.

The impact of the transfer of SNPS fuel to LGS on occupational exposure will be within existing estimates for LGS. The slightly irradiated Shoreham fuel will be packaged inside shipping casks designed to handle highly irradiated spent fuel assemblies. The casks will be opened and unloaded while submerged in the LGS cask storage pit, and handling of the slightly irradiated fuel will be the same as handling the highly irradiated fuel during refueling operations. Appropriate actions to maintain exposure as low as reasonably achievable (ALARA) will be taken.

Additionally, the proposed change to the LGS operating licenses would benefit the environment and is in the national interest. The benefits include: recovery of the available energy from the fuel that might otherwise be lost; reduction in the need to mine and process uranium and fabricate fuel assemblies that would otherwise be required; reduction in the amount of spent nuclear fuel that would otherwise require storage and disposal at a Federal high-level waste repository; and facilitates the decommissioning of the SNPS.

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

Non-radiological impacts at the LGS site are limited to removal of paving material sufficient to permit wheel clearance on 600 feet of existing rail spur and the replacement of a number of railroad ties. Since the work is minor and the site area was previously disturbed during site preparation and construction, this type of environmental impact has been previously addressed and no further environmental assessment of this activity is required. The Commission concludes that there are no significant non-radiological environmental impacts associated with the proposed amendments.

Therefore, we have concluded that there is no need for a supplemental environmental impact statement in connection with the issuance of this amendment to the LGS operating licenses in accordance with criteria of 10 CFR 51.22(b).

Alternative to the Proposed Action:

Because the staff has concluded that there is no significant environmental impact associated with the proposed transfer of the SNPS fuel to LGS, any alternative would have either no impact or greater environmental impact.

The principal alternative would be to deny the requested amendment. This would not reduce the impacts from operation of the facility since LGS reactors will continue to operate using new fuel obtained from existing sources. Denial of an amendment authorizing the transfer of the SNPS fuel to LGS, could result in the SNPS fuel being disposed of at a Federal high-level waste repository or, through the expenditures of additional resources, reprocessed at an overseas facility for eventual reconstitution into fuel.

Alternate 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 Limerick Generating Station, Units 1 and 2" dated April 1984.

Agencies and Persons Consulted:

The NRC staff reviewed the licensee's request and did not consult other agencies or persons.

FINDING OF NO SIGNIFICANT IMPACT

The Commission has determined not to prepare an environmental impact statement for the proposed license amendment.

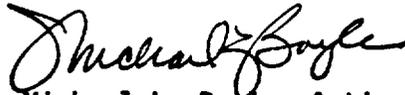
Based upon the above environmental assessment, we conclude that the proposed action will not have a significant effect on the quality of the human environment.

For further details with respect to this action, see the application for amendment dated March 8, 1993, which is available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, N.W.,

Washington, D.C. 20555 and at the Pottstown Public Library, 500 High Street,  
Pottstown, Pennsylvania 19464.

Dated at Rockville, Maryland, this 11th day of May 1993.

FOR THE NUCLEAR REGULATORY COMMISSION



Michael L. Boyle, Acting Director  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation