Station Support Department

10CFR50.90

PECO ENERGY

PECO Energy Company
Nuclear Group Headquarters
965 Chesterbrook Boulevard
Wayne, PA 19087-5691

January 6, 1995

Docket Nos. 50-352
50-353

License Nos. NPF-39
NPF-85

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: Limerick Generating Station, Units 1 and 2
Response to Request for Additional Information Regarding
Power Rerate Program (RAI-6)

Gentlemen:

Attached is our response to your Request for Additional Information (RAI), discussed in our telephone conversation on December 20, 1994, regarding the planned implementation of the Power Rerate Program at Limerick Generating Station (LGS), Units 1 and 2. The Power Rerate Program is the subject of Operating License Change Request No. 93-24-0 which was forwarded to you by letter dated December 9, 1993.

If you have any questions, please do not hesitate to contact us.

Very truly yours,

G. A. Hunger, Jr.

G. A. Hunger, Jr.,
Director - Licensing

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Attachment

cc: T. T. Martin, Administrator, Region I, USNRC w/ attachment
N. S. Perry, USNRC Senior Resident Inspector, LGS w/attachment
R. R. Janati, Director, PA Bureau of Radiological Protection w/attachment

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COMMONWEALTH OF PENNSYLVANIA :

: ss.

COUNTY OF CHESTER :

W. H. Smith, III, being first duly sworn, deposes and says:

That he is Vice President of PECO Energy Company, the Applicant herein; that he has read the enclosed response to the NRC Request for Additional Information involving Power Rerate discussed on December 20, 1994, concerning Operating License Change Request No. 93-24-0 for Limerick Generating Station Facility Operating License Nos. NPF-39 and NPF-85, and knows the contents thereof; and that the statements and matters set forth therein are true and correct to the best of his knowledge, information and belief.

William H. Smith III
Vice President

Subscribed and sworn to
before me this 5th day
of January 1995.

Erica A. Santori
Notary Public

Notarial Seal
Erica A. Santori, Notary Public
Tredyffrin Twp., Chester County
My Commission Expires July 10, 1995

Docket Nos. 50-352
50-353
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RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION (RAI-6)
LIMERICK GENERATING STATION, UNITS 1 AND 2
(Per Telecon dated December 20, 1994)

OPERATING LICENSE CHANGE REQUEST NO. 93-24-0

Reference: "Power Rerate Safety Analysis Report for Limerick Generating Station, Units 1 & 2," General Electric Company, NEDC-32225P, Class III, September 1993 (proprietary)

Question 1:

Provide the effects of additional withdrawal of river water and an increase in the blowdown rate from the natural draft cooling tower, for the proposed rerated power operation.

Response 1:

The only increase in LGS river water intake due to operation at power rerate conditions is due to increased evaporation in the cooling towers. The existing consumptive flow will conservatively increase to 40,723,200 gal per day (total for both units), depending on atmospheric conditions. When makeup is taken from the Point Pleasant Pumping Station via Bradshaw Station, three percent additional evaporative losses must be considered. The increased makeup flow (including evaporative losses), is within the existing water diversion consumptive use limit of 42,000,000 gal per day specified in the original permitting evaluations.

No increase to cooling tower blowdown is expected due to physical limitation in the blowdown system. However, due to increased evaporation from the towers, concentrations of dissolved and suspended solids will also be increased in the blowdown slightly (less than 7 percent), which is within permit limits and not environmentally significant.

Question 2:

Identify the change in the temperature of the cooling water blowdown.

Response 2:

The cooling tower blowdown will be insignificantly increased (less than 0.1°F) due to operation at power rerate conditions.

Question 3:

Discuss any adverse impacts on the terrestrial environment due to the additional drift emissions from the cooling tower on local soils and vegetation.

Response 3:

No increase in drift is anticipated for operation of the cooling towers at rerated conditions. Drift is a function of physical geometry, water flow, and wind conditions, none of which are changed by power rerate. Therefore, the original evaluation of impacts to the terrestrial environment is not altered due to power rerate.

Question 4:

Identify any changes in cooling tower water chemistry and intake canal velocity.

Response 4:

Cooling tower water chemistry will change only to the extent discussed in response to Question 1 above due to increases in makeup and evaporation. Intake velocities increase less than 7 percent.

Question 5:

Address any increased noise levels attributed towards power rerate.

Response 5:

There are no new or revised noise contributors due to operation at rerate power level. Major plant equipment is housed within structures located on the plant site and are not major contributors to surrounding noise levels. Even so, most equipment such as the main turbines and generators will operate at the same speed as before. Equipment not housed in buildings, such as the cooling towers and spray pond, will operate at the same flow as at the original plant conditions.

The main station transformers and makeup pumps are the only real exceptions to this. The transformers will operate at an increased kva level. The overall noise level increase due to this is not significant, however. The makeup pumps are indoors or will operate at the same level as before rerate, in some cases cycling on slightly more frequently. The pumps at the Bradshaw Station are variable speed and, when used, will operate at a slightly higher speed. The pumps are indoors, however, so the outside noise level increase will be insignificant.

Question 6:

Discuss any changes to the river water discharge flow rate, velocity, temperature or thermal plume, or chemical composition due to power rerate. Also address the effects of power rerating on the National Pollutant Discharge Elimination System (NPDES) permit.

Response 6:

The discharge flow from the plant/cooling towers to the river is not changed by operation at power rerate conditions. The discharge velocity is likewise, unchanged. As previously discussed in response to Question 1 above, concentration changes in the cooling tower are not significant, so no significant change to the discharge composition will result. Likewise, the blowdown temperature rise of less than 0.1°F will have an insignificant effect on the thermal plume.

The NPDES permit is acceptable for operation at power rerate conditions and need not be revised.

Question 7:

The increase in spent fuel pool heat load is due to the proposed increase in power level and the use of high density spent fuel storage racks. Address any environmental impacts from the releases of the radioactive materials.

Response 7:

The change in environmental impact of radioactive material releases due to operation at rerate power levels has been reviewed and is not significant and releases remain well within the regulatory limits. More detailed discussions on changes in radiation levels are discussed in section 8.5 (Radiation Levels) and 9.2 (Design Basis Accidents) of the Safety Analysis Report.

Question 8:

Discuss any changes in the liquid radwaste quantities or activity levels due to the proposed power rerate.

Response 8:

The amount of liquid radwaste generated increases very slightly due to operation at rerate power level, as discussed in section 8.1 (Liquid Waste Management) of the Safety Analysis Report. The change in liquid radwaste activity levels is also small, as

discussed in section 8.4 (Radiation Sources in the Coolant) of the Safety Analysis Report.

Question 9:

Discuss any significant increase due to the proposed power rerate in the makeup requirements for the reactor coolant system, component cooling water system, condensate and feedwater system, turbine plant cooling system, auxiliary steam system, water treatment plant, and the fire protection system.

Response 9:

Makeup water requirements do not change due to operation at rerate power levels for any of the systems listed. The only potential change is due to increased reactor operating pressure which could slightly increase leakage through valve packing, etc. Although this higher leakage increases the liquid radwaste processing load slightly, the volume of processed water available for recycle to the condensate storage system for reuse also increases by the same amount.

Question 10:

Identify if there any changes needed to the environmental protection plan.

Response 10:

None.