

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

W. L. STEWART
VICE PRESIDENT
NUCLEAR OPERATIONS

December 6, 1983

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
Attn: Mr. James R. Miller, Chief
Operating Reactors Branch No. 3
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Serial No. 450C
PSE&C /HSM/lmf/0013N
Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

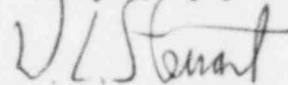
Gentlemen:

ADDITIONAL INFORMATION
PROPOSED OPERATING LICENSE AMENDMENT NPF-4 AND NPF-7
NORTH ANNA POWER STATION UNIT NOS. 1 AND 2

In a recent telephone conversation between members of your staff and Vepco, clarification was requested on our response to question 1 in our letter of June 16, 1983 (Serial No. 450B). The requested clarification is attached.

If you require further information on this matter, we would be pleased to meet with your staff at their convenience.

Very truly yours,



W. L. Stewart

cc: Mr. James P. O'Reilly
Regional Administrator
Region II
U. S. Nuclear Regulatory Commission
Atlanta, Georgia 30303

Mr. M. B. Shymlock
NRC Resident Inspector
North Anna Power Station

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RADIATION EXPOSURE AS A RESULT OF RERACKING
NORTH ANNA POWER STATION UNIT NOS. 1 AND 2

The activities performed in and around the fuel building resulting in radiation exposure include, fuel handling (refueling), and filter changes and demineralizer changes in the spent fuel pool purification system. Experience with other reracking has shown that the direct dose, due to additional spent fuel being stored in the fuel pool, increases very little if any. There would therefore, be no increase in the dose from fuel handling activities. As more fuel is stored in the fuel pool, there is the possibility for additional radioactive crud from the fuel assemblies being introduced into the fuel pool water. The fuel pool purification system is capable of removing the additional impurities from the water. This could, however, result in the need to change the filters and demineralizer resins on a more frequent basis than they presently are changed. Demineralizer resins and filter changes have been performed on an average of once every year to 18 months. The basis for the frequency upon which resin and filters are changed out is high differential pressure, or high radiation level. It is, therefore, possible that one additional filter change and demineralizer resin change each year will be required as a result of increasing the amount of spent fuel stored in the pool.

A filter change results in approximately 300 mrem of personal exposure and a demineralizer resin change results in approximately 46 mrem of personal exposure.

Therefore, the reracking of the fuel pool may result in an additional annual increment of 346 mrem.

TABLE OF RADIATION EXPOSURE FOR RERACKING ACTIVITIES
NORTH ANNA POWER STATION UNIT NOS. 1 AND 2

<u>Work Phase</u>	<u># of Workers</u>	<u>Dose Rate(mr)</u>	<u>Hours</u>	<u>Dose (mr)</u>
Rack Removal/ Installation	7	5	160	5600
Divers	1	50	80	4000
Fuel Shuffle	2	10	134	2680
Disposal of Racks	3	3	130	1170

Total: 13,450 mr