

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

August 18, 1989

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

Serial No. 88-603A  
PES/NPW/cdk  
Docket Nos. 50-338  
50-339  
License Nos. NPF-4  
NPF-7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY  
NORTH ANNA POWER STATION UNITS NO. 1 AND 2  
PROPOSED TECHNICAL SPECIFICATION CHANGE  
FUEL ENRICHMENT INCREASE  
SUPPLEMENT NO. 1

By letter dated September 30, 1988 (Serial No. 88-603), Virginia Electric and Power Company requested amendments, in the form of changes to the Technical Specifications, to Operating Licenses NPF-4 and NPF-7 for North Anna Units 1 and 2, respectively. The proposed changes would increase the allowable enrichment of fuel assemblies irradiated at North Anna to 4.3 w/o U-235. As a result of discussions with the NRC Staff on July 7, 1989, we are providing supplemental information related to environmental effects of higher enrichment fuel to support this proposed Technical Specification change request.

As discussed in the September letter, the safety considerations associated with reactor operation with higher enrichment and irradiation were previously addressed by Virginia Electric and Power Company and have been evaluated by the NRC. The conclusion of these evaluations was that changes such as the proposed increase in enrichment to 4.3 w/o U-235 and irradiation to the currently licensed batch average discharge burnup limit of 45,000 MWD/MTU would not adversely impact plant safety or have an adverse impact on the probability of any accident. As a result of the proposed enrichment increase and operation to the licensed burnup limit, no changes are being made in the types or amounts of any radiological effluents that may be released offsite.

Virginia Electric and Power Company has reviewed its current and proposed fuel use at North Anna and has determined the "NRC Assessment of the Environmental Effects of Transportation resulting from Extended Fuel Enrichment and Irradiation" as provided in the Federal Register (53 FR 30355) is applicable to North Anna. Under the current fuel management scheme, sixty-four fresh assemblies are typically loaded into the North Anna units every eighteen months in reload cores. At the current Technical Specification fuel enrichment limit of 4.1 w/o U-235, the batch average burnups are limited to a value of approximately 41,000 MWD/MTU. As a result of the proposed increase in the enrichment limit to 4.3 w/o U-235, approximately sixty feed assemblies would be loaded into North Anna reload cores every eighteen months. The batch average discharge burnup would approach the currently licensed limit of 45,000 MWD/MTU.

8908250034 890818  
PDR ADCK 05000338  
P FDC

Acc 1  
11

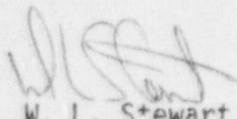
The current enrichment and burnup levels as well as the proposed enrichment and burnup levels are within the limits for these parameters assumed in the NRC staff analysis performed pursuant to 10 CFR 51.52(b) and documented in Federal Register (53 FR 30355).

Virginia Electric and Power Company has also reviewed the NRC Staff's Environmental Assessment contained in the enclosure to an NRC letter dated April 21, 1986 which transmitted Amendments No. 76 and 65. This assessment related to transshipment of spent fuel from Surry to North Anna. The report stated that the environmental impact of the proposed transshipment of spent fuel from Surry to North Anna was well within the scope of Table S-4 as set forth in 10 CFR 51.52(c) and need not be addressed on a site specific basis. The Environmental Assessment concluded that the radiological impact on the environment of the proposed transshipment would be less than that shown in Table S-4 by a factor of at least 30 and well within the scope of Table S-4. This evaluation is not impacted by the proposed increase in enrichment.

Virginia Electric and Power Company concludes that, since the enrichment limits and discharge burnups for North Anna fuel are below the limits assumed for these parameters in the Federal Register (53 FR 30355) analysis, this analysis is applicable to the North Anna facilities and Virginia Electric and Power Company's intended fuel use. Therefore, Virginia Electric and Power Company adopts the use of the assessment to the environmental effect of the transportation of high burnup fuel, provided in the Federal Register (53 FR 30355), to satisfy the requirements of 10 CFR 51.52(b).

If you have any additional questions concerning this issue, please contact us at your earliest convenience.

Very truly yours,



W. L. Stewart  
Senior Vice President - Power

cc: U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, N. W.  
Suite 2900  
Atlanta, Georgia 30323

Mr. J. L. Caldwell  
NRC Senior Resident Inspector  
North Anna Power Station