

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

W. L. STEWART  
VICE PRESIDENT  
NUCLEAR OPERATIONS

November 8, 1985

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
Attn: Mr. Steven A. Varga, Chief  
Operating Reactors Branch No. 1  
Division of Licensing  
U. S. Nuclear Regulatory Commission  
Washington DC 20555

Serial No. 85-499A  
E&C/NAS/ap  
Docket Nos. 50-280  
50-281  
License Nos. DPR-32  
DPR-37

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY  
SURRY POWER STATION UNIT NOS. 1 AND 2  
PROPOSED TECHNICAL SPECIFICATIONS CHANGES

On August 9, 1985 we submitted a request to change the Technical Specifications for Surry Power Station, Unit Nos. 1 and 2 (Serial No. 85-499). The proposed changes would impose a minimum temperature for criticality of 522°F.

On October 2, 1985, a telephone conference was held between Veeco (Mr. J. Hegner, Mr. N. Smith and Mr. K. Basehore) and NRC (Mr. T. Chan and Ms. M. Chatterton) to provide additional background information pertaining to this submittal. The following provides a summary of this additional information.

The proposed minimum temperature for criticality of 522°F was established based on a detailed evaluation of the safety and plant operational impact of achieving criticality at temperatures below the nominal hot zero power temperature of 547°F. The evaluation considered the impact of the reduced temperatures on the FSAR Chapter 14 accident analyses, including the effects on core kinetics parameters and peaking factors, reactor protection and control systems response, and on fuel performance and NSSS/balance of plant integrity.

The results of our evaluations showed that certain of the core-physics-related parameters which can significantly influence the accident analysis results (e.g. ejected rod worths and power peaking factors) do in fact become more limiting at reduced temperatures. The minimum temperature limit was chosen such that all of the existing accident analysis assumptions remain bounding for the current operating cycles. Future reload evaluations will explicitly account for the possibility of achieving criticality at temperatures as low as 522°F.

It should be noted that the 522°F limit does not represent a condition below which the accident analysis results would be unacceptable. In fact, Veeco

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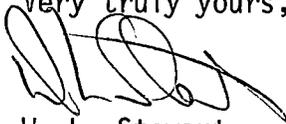
Mr. Harold R. Denton  
Page 2

studies have shown that acceptable results can be demonstrated at temperatures substantially below this limit. However, the 522°F limit was chosen to provide a reasonable degree of assurance that accident re-analyses will not be required for future cycles.

Under the existing Technical Specifications, no clearly defined minimum temperature for criticality exists which can be readily correlated with accident analysis assumptions. The proposed changes rectify this situation by establishing a limit which would be reflected in the reload safety analysis process for all future cycles.

Please contact us at your convenience if you have any additional questions.

Very truly yours,



W. L. Stewart

cc: Dr. J. Nelson Grace  
Regional Administrator

Mr. Charles Price  
Department of Health  
109 Governor Street  
Richmond, Virginia 23219

Mr. D. J. Burke  
NRC Resident Inspector  
Surry Power Station