

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

W. L. STEWART  
VICE PRESIDENT  
NUCLEAR OPERATIONS

November 26, 1985

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

Serial No. 85-801  
NO/DJV:acm  
Docket Nos. 50-338  
50-339  
License Nos. NPF-4  
NPF-7

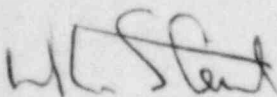
Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY  
NORTH ANNA POWER STATION UNITS NO. 1 AND 2  
LOCKED ROTOR ACCIDENT ANALYSIS-REQUEST FOR ADDITIONAL INFORMATION

Our letter of February 7, 1985 (Serial No. 666) presented an analysis of the postulated locked rotor accident for North Anna Units No. 1 and 2. On November 14, 1985, in a telephone conference with the NRC staff regarding this submittal, Ms. Margaret Chatterton of your staff requested that we provide the percentage of fuel rods in the core which are predicted to experience a Departure from Nucleate Boiling Ratio (DNBR) of less than 1.30 during the locked rotor accident. The purpose of this letter is to provide our response to that request.

Using the transient results (heat flux, flow rates, etc.) presented in our February 7 submittal as forcing functions, a detailed core thermal-hydraulic analysis was performed using the COBRA III C/MIT Code. The results of this analysis were used in conjunction with the calculated core power distributions for several recent North Anna reloads to calculate the maximum percentage of fuel rods which would experience a W-3 minimum DNBR of less than 1.30 during the locked rotor accident. The results showed that less than 2% of the fuel rods would experience a DNBR of less than 1.30 (i.e. at a 95% confidence level, no more than 2% of the rods would have a DNB probability exceeding 0.05) during this event. Future reload cores will be reviewed to verify that this conclusion remains valid.

Very truly yours,

  
W. L. Stewart

8512050273 851126  
PDR ADOCK 05000338  
P PDR

*Aool*  
*1/0*

VIRGINIA ELECTRIC AND POWER COMPANY TO Mr. Harold R. Denton

cc: Dr. J. Nelson Grace  
Regional Administrator  
NRC Region II

Mr. Morris W. Branch  
NRC Resident Inspector  
North Anna Power Station

Mr. Leon B. Engle  
NRC North Anna Project Manager  
Operating Reactors Branch No. 3  
Division of Licensing