

March 29, 1985



VIRGINIA POWER

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. 696C  
EC/JHG:mjp  
Docket Nos. 50-338  
50-339  
License Nos. NPF-4  
NPF-7

Gentlemen:

**VIRGINIA POWER**  
**NORTH ANNA UNIT NOS. 1 AND 2**  
**GENERAL DESIGN CRITERIA 17 ANALYSIS**

Your letter of November 13, 1984, provided a revised and updated Safety Evaluation for North Anna Units 1 and 2 with relation to GDC-17. In that letter, it was requested that the NRC be kept apprised of the status of the motor control center contactor coils until the final report regarding this matter is submitted for NRC review.

In our letter of July 7, 1983 (Serial No. 326), Virginia Power stated that tests would be performed on 1E motor control center contactor coils to determine the effects of overvoltage. Enclosed is a copy of the report for your review.

The overvoltage tests and preparation of the test report were performed by Wyle Laboratories. Actual aging and overvoltage testing was conducted on size one and size four contactor coils. The size one coils were used as typical test specimens for size two and smaller coils due to similar design and construction. The size four coils were used as typical test specimens for size three and larger coils for the same reason. As a result of preliminary information received during coil testing, Virginia Power reviewed the operating duty cycles for all size two and smaller coils in anticipation of the need for a coil replacement schedule. A review of operating duty cycles for all size three and larger coils was not conducted since preliminary information received during coil testing indicated that forty year life was obtainable. However, an aged forty year life, 100% duty cycle, size four specimen failed during operation at its equivalent life of 40.03 years, which removed forty years as an acceptable qualified life.

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VIRGINIA POWER

Mr. Harold R. Denton, Director  
Page 2

Virginia Power has reviewed the test report and, based on known operating duty cycles, recommends the following replacement schedule for size two and smaller coils. All existing and future size two and smaller contactor coils that operate between 51-100% duty will be replaced approximately every ten to twelve years (based on a qualified life of 13.15 years). Approximately eighteen contactor coils in Units 1 and 2 fall into this category. All existing and future size two and smaller contactor coils that operate between 21-50% duty will be replaced approximately every twenty to twenty-two years (based on a qualified life of 23.71 years). Approximately fifty-nine contactor coils in Units 1 and 2 fall into this category. Existing and future size two and smaller contactor coils that operate less than 20% duty were tested positively to an equivalent forty year life at 100% duty cycle. Size three and larger contactor coils were tested and evaluated to have a 35.08 year life at 100% duty cycle. Virginia Power will by June 30, 1985 review and evaluate the operating duty cycles on these larger coils and recommend any required replacement schedule at that time. We will inform you of our resolution of this matter at that time.

Please contact this office if you require additional information.

Very truly yours,

  
W. L. Stewart

WTM:mjp:2005N

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

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