

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

September 12, 1988

United States Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555

Serial No. 88-511  
NL/DJV:jmj  
Docket Nos. 50-338  
50-339  
License Nos. NPF-4  
NPF-7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY  
NORTH ANNA POWER STATION UNITS 1 AND 2  
REFUELING OUTAGE PLANS

The purpose of this letter is to inform the NRC of our current plans regarding the upcoming refueling outages for North Anna Power Station Units 1 and 2. The North Anna 1 and 2 refueling outages were originally scheduled to commence in February, 1989 and November, 1988, respectively. However, we have recently conducted a review of the North Anna outage schedules, and this review has resulted in a revision to outage plans for both units. Several unanticipated outages of units in the Virginia Power system, particularly the three month outage following the Unit 1 steam generator tube rupture event, have made it desirable to extend the operating cycles of both units so as to fully utilize the energy in the reactor cores and defer operating and maintenance costs associated with the refueling outages. Since the Unit 2 reactor core has sufficient fuel to permit full power operation for approximately one and one-half months after November 1, 1988, the Unit 2 cycle can be extended past the peak winter load period and into early February, 1989. Given this Unit 2 outage schedule, the Unit 1 cycle needs to be extended to April, 1989 in order to avoid both units being out of service simultaneously. Consequently, the Unit 1 and 2 refueling outages have been rescheduled to commence in April, 1989 and February, 1989, respectively.

Because of this change in outage plans, several licensing issues have developed which will require your review and approval. These issues are as follows:

1. NRC approval will be required to permit a one-time extension of the Technical Specifications surveillance interval for the containment integrated leak rate tests for Units 1 and 2.
2. NRC approval will also be required to permit a one-time extension of certain other Unit 1 surveillances that are required by the Technical Specifications to be performed on an 18-month frequency.

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3. NRC approval will be required to permit a one-time extension to the NRC approved fuel rod burnup limit for a number of fuel rods in four fuel assemblies which are part of a program that we have undertaken with Westinghouse and EPRI. This program is intended to obtain data on fuel rod corrosion at high burnups.

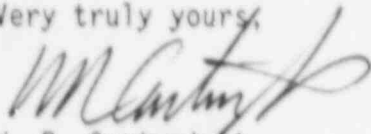
In addition, there are a number of refueling outage activities involving licensing issues which will require your review and approval. These issues are as follows:

1. Certain Unit 1 and 2 steam generator and reactor coolant pump large bore snubbers will be removed and replaced with rigid restraints as described in our letter of November 11, 1986.
2. Our letter dated June 17, 1987 proposed changes to the Technical Specifications to implement Virginia Power's statistical DNBR methodology, and to impose a less restrictive negative moderator temperature coefficient limit. The less restrictive moderator temperature coefficient limit may be required for operation near the end of the current operating cycles, and the statistical DNBR methodology may be required in the design of the Unit 1 and 2 core reloads. Therefore, your approval of these proposed changes is requested by November 30, 1988.
3. The integrated leak rate tests for both units will be performed using the "mass point method" as recommended by the NRC and proposed in our Technical Specifications change request which was submitted on May 26, 1988.
4. We are evaluating our test procedures for the upcoming containment integrated leak rate tests for both units. As part of this evaluation we have identified that certain containment penetrations should not be considered as leakage paths in the test. Therefore, we plan to submit, for your review and approval, appropriate engineering evaluations to support excluding these penetrations from the overall containment leakage rate.
5. We anticipate having to plug additional steam generator tubes, and therefore, have performed analyses to permit an increase in the number of plugged steam generator tubes. These analyses will be submitted along with proposed changes to the Technical Specifications for both units to increase the allowable heat flux hot channel factor.
6. North Anna Unit 2 is in the third period of its first inspection interval and plans to conduct those hydrostatic tests which are required by ASME Section XI during the next two refueling outages for the unit. Because of the plant's design and component geometry, it is not practical to meet certain hydrostatic test requirements of Section XI. Therefore, we will be submitting requests for relief from these requirements.

7. As part of our efforts to reduce the number of automatic reactor trips, we are planning to modify the reactor protection system to increase the power level below which the reactor trip on turbine trip is blocked. Accordingly, changes to the both units' Technical Specifications will be proposed.
8. We are investigating means of improving the reliability of the residual heat removal system (RHR) during operation with the reactor coolant system partially filled (NRC Generic Letter 87-12). We intend to propose changes to both units' Technical Specifications to eliminate the automatic RHR suction valve closure interlock and to reduce the required RHR flow rate under certain conditions in order to reduce the potential for pump cavitation due to fluid vortexing in the suction piping.
9. Following the Unit 1 steam generator tube rupture event a number of tubes were plugged as a preventive measure in order to preclude a similar tube failure. Based on further evaluation and testing by Westinghouse, it has been concluded that a number of tubes that were plugged are, in fact, not susceptible to the same failure mechanism that caused the tube rupture. Therefore, we intend to submit for your review and approval appropriate engineering evaluations in support of removal of these plugs during this and future refueling outages.
10. We are continuing, in concert with Westinghouse, to evaluate improved fuel rod cladding materials. This program was initiated during the current Unit 1 fuel cycle when two demonstration fuel assemblies with a number of fuel rods clad with an advanced, zirconium-based alloy cladding material were approved for use by the NRC. We intend to extend this program during the next fuel cycle by inserting into these same demonstration fuel assemblies a number of additional fuel rods with a similar, but slightly different, cladding material. A proposed license amendment and exemption from 10 CFR 50.46 will be submitted for your approval in support of this extension of the advanced fuel cladding material demonstration program.

We request your timely consideration of each of the above licensing issues. For each of the above issues for which a licensing package has not already been submitted, we expect to submit the licensing package by the end of September 1988, with the exception of items 8 and 9 above, which should be submitted by October 31, 1988 and November 30, 1988, respectively.

Very truly yours,



W. R. Cartwright  
Vice President - Nuclear

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