



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 177 AND 158 TO

FACILITY OPERATING LICENSE NOS. NPF-4 AND NPF-7

VIRGINIA ELECTRIC AND POWER COMPANY

OLD DOMINION ELECTRIC COOPERATIVE

NORTH ANNA POWER STATION, UNITS NO. 1 AND NO. 2

DOCKET NOS. 50-338 AND 50-339

1.0 INTRODUCTION

By letter dated December 10, 1993, the Virginia Electric and Power Company (the licensee) requested a change to the technical specifications (TS) for the North Anna Power Station, Units No. 1 and No. 2 (NA-1&2). The proposed change would modify the surveillance frequency of the Auxiliary Feedwater System (AFS) pumps from monthly to quarterly.

2.0 DISCUSSION

The NRC has completed a comprehensive examination of surveillance requirements in TS that require testing at power. The evaluation is documented in NUREG-1366, "Improvements to Technical Specification Surveillance Requirements," dated December 1992. The NRC staff found, that while the majority of testing at power is important, safety can be improved, equipment degradation decreased, and an unnecessary burden on personnel resources eliminated by reducing the amount of testing at power that is required by technical specifications. Based on the results of the evaluations documented in NUREG-1366, the NRC issued Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation," dated September 27, 1993.

The AFS supplies water to the steam generators to remove decay heat from the Reactor Coolant System. To ensure operability of the AFS, the pumps are currently tested on a monthly basis as required by NA-1&2 TS. Consistent with Generic Letter 93-05, Item 9.1 and NUREG-1366, the licensee is requesting a change to the surveillance testing frequency for the AF pumps from monthly to quarterly on a staggered test basis.

The AFS consists of three separate and independent pumps with dedicated flow paths to the three steam generators. Two of these auxiliary feedwater pumps are motor driven and power is supplied to the motors by the emergency busses. The third auxiliary feedwater pump is a steam driven pump with the steam supplied by the steam generators.

In the past, the NRC has required monthly testing of the auxiliary feedwater pumps. However, as specified in NUREG-1366 and NRC Generic Letter 93-05, operating and testing experience has indicated that the monthly testing requirement of the AF pumps is not necessary to adequately ensure that the AF pumps will perform their intended function. The amendment request would require the AF pumps be tested quarterly on a staggered basis. This new testing frequency should reduce the AFS unavailability resulting from failures and equipment degradation and result in increased system reliability. The acceptance criteria for operability of the auxiliary feedwater pumps are consistent with ASME Section XI requirements. Testing of AFS pumps would continue to be performed through full-flow test lines.

### 3.0 TS CHANGES

Surveillance Requirement (SR) 4.7.1.2 would be modified as follows:

- SR 4.7.1.2.a is changed to only include valve testing and would read:  
  
4.7.1.2.a.1 "At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position."
- SR 4.7.1.2.b is changed to incorporate the pump testing and would read:  
  
4.7.1.2.b.1 "At least once per 92 days on a STAGGERED TEST BASIS by verifying that each pump develops adequate discharge pressure and flow. The acceptance criterion shall be consistent with Specification 4.0.5. The provisions of Specification 4.0.4 are not applicable to steam turbine driven pump testing."
- Previous SR 4.7.1.2.b is renumbered as 4.7.1.2.c.
- Previous SR 4.7.1.2.c is renumbered as 4.7.1.2.d.

### 4.0 EVALUATION

The proposed change is consistent with the intent of NUREG-1366. Also, the proposed change is in conformance with NRC Generic Letter 93-05, Item 9.1 for surveillance testing of the AFS pumps on a staggered quarterly basis. Therefore, the staff finds the proposed change to be acceptable.

### 5.0 STATE CONCLUSION

In accordance with the Commission's regulations, the Virginia State official was notified of the proposed issuance of the amendment. The State official had no comment.

## 6.0 ENVIRONMENTAL CONSIDERATION

These amendments change surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding (59 FR 631). Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

## 7.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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