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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 134 TO FACILITY OPERATING LICENSE NO. DPR-32

AND AMENDMENT NO.134 TO FACILITY OPERATING LICENSE NO. DPR-37

VIRGINIA ELECTRIC AND POWER COMPANY

SURRY POWER STATION, UNIT NOS. 1 AND 2

DOCKET NOS. 50-280 AND 50-281

1.0 INTRODUCTION

The shared service water system at Surry Units 1 and 2 is unusual in that flow to most components is provided by gravity rather than mechanical pumping means. However, to assure adequate flow to some components, booster pumps are required. There are three shared booster pumps for the control and relay room chillers and four (two for each unit) booster pumps for the charging pump service water subsystem. These seven booster pumps are presently supplied by two 6-inch fiberglass lines (one from each unit), both of which are required by the Technical Specifications to be operable.

These fiberglass pipes have in the past been susceptible to silting and biological fouling causing reduced suction pressure at the inlet to the booster pumps for the charging pump service water subsystem. Because both lines must remain operable to allow power operation of either unit and frequent periodic cleaning is required, the present piping system is considered by the licensee to be inadequate to support plant operation.

As a result of this inadequacy, Virginia Electric and Power Company (the licensee), by letter dated August 2, 1989 proposed interim Technical Specification changes to permit modifications to the booster pump suction piping design. The interim action statement associated with the proposed Technical Specification change would expire on March 31, 1990, or upon completion of the piping modifications, whichever occurs first. A licensee letter of September 12, 1989, added details which did not change the proposal or affect the initial no significant hazards determination in the August 16, 1989 Federal Register Notice.

2.0 EVALUATION

The proposed design modifications consist of replacement of the two existing 6-inch fiberglass pipes with three 8-inch metallic pipes. The third pipe will allow periodic cleaning as necessary, while still maintaining the two flow paths required by the Technical Specifications.

To make the necessary tie-ins for the piping modifications, it is periodically necessary to reduce the operable flow paths to one for a period of up to 24 hours. The present service water system Technical Specifications allow taking a flow path out of service for up to 24 hours. The present Technical Specifications also require three control and relay (emergency switchgear) room chillers to be operable when the plant is operating in other than the cold shutdown mode, with a 7 day limiting condition for operation (LCO) if one chiller becomes inoperable. However, one service water supply line is not sufficient to support operation of two chillers and two charging pump service water (booster) pumps at design basis accident conditions. Therefore, a temporary service water supply line is necessary during those periods of time when one permanent (existing) service water supply line is taken out of service to make the piping tie-ins for the modifications. An interim Technical Specification change is also required to allow a service water supply line to be removed from service for a 24 hour period. This interim specification requires that prior to and during the removal of the supply line from service, a temporary supply line with sufficient capacity to provide full flow to one control room and emergency switchgear room chiller service water (booster) pump shall be placed in service.

The proposed Technical Specification change allows the temporary line to be in service for a maximum of 24 hours. The required action if either the temporary line or the operating line becomes inoperable during this 24 hour period is to apply the provisions of Technical Specification 3.0.1, which require shutdown of both units. The 24 hour period is consistent with the existing service water system Technical Specification when one of the two permanent operating lines becomes inoperable. Based on the consistent approach and the limited number of times (approximately 4) the licensee plans to enter into the 24 hour LCO during the course of making the modifications, the staff finds the proposed change acceptable. It should also be noted that the proposed change will only be in effect until March 31, 1990, or upon completion of the piping modifications, whichever occurs first.

The temporary line generally meets the safety-related criteria for service water system piping, including missile protection and seismic support, except in the turbine building where it is not seismic or missile protected. Because of the short duration and the limited number of times this temporary line will be in use, the staff considers the line to be acceptable. This acceptance has also taken into account the licensee's administrative controls and special operating procedures which will be in effect when the temporary line is in service. The administrative controls include contingency actions that would be used upon loss of service water flow.

3.0 SUMMARY

Based on the above, the staff concludes that the proposed interim Technical Specification change is acceptable because it is conservative in nature and consistent with the existing Technical Specifications in that it will be used a limited number of times for short periods and requires shutdown per Specification 3.0.1 if any one of the service water lines becomes inoperable while the 24 hour action statement is in effect. Further, once the modifications are complete, the interim action statement will no longer be used and expires

March 31, 1990 or upon completion of the piping modifications, whichever occurs first. Inherent in the staff's conclusion that the proposed interim Technical Specification change is acceptable is the staff's conclusion that the modifications may be safely performed during power operation of either or both units. This acceptance is based in part on the administrative controls, special operating procedures and contingency plans which will be in effect while the temporary line is in use.

The staff further concludes that the proposed final modifications will result in a more reliable service water system supply to the service water booster pumps for the charging pumps and for the control room and emergency switchgear room chillers because of the greater flexibility in operation provided by the additional (third) line. The modifications are, therefore, acceptable.

4.0 ENVIRONMENTAL CONSIDERATION

These amendments involve a change in the installation or use of the facilities components located within the restricted areas as defined in 10 CFR Part 20. The staff has determined that these amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and there is 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. 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 these amendments.

5.0 CONCLUSION

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Dated: October 5, 1989

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