



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 150 TO FACILITY OPERATING LICENSE NO. DPR-32
AND AMENDMENT NO. 147 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

INTRODUCTION

By letter dated March 8, 1990, the Virginia Electric and Power Company (the licensee), submitted a request for amendments to Technical Specifications (TS) Sections 4.1.E and 4.1.H and to the Bases Section for the Surry Power Station, Units 1 and 2. The amendments would eliminate the monthly flush requirements for the sensitized stainless steel piping installed in the safety injection and containment spray systems. Instead, the systems containing sensitized steel will be flushed whenever the concentration of chlorides and/or fluorides in the refueling water storage tank (RWST) exceeds 0.15 ppm. Also, a requirement would be added to perform weekly sampling of the solution in the RWST for chloride and fluoride contamination. The proposed modifications would simplify the existing operating procedures.

EVALUATION

The Surry plant contains a number of stainless steel pipes which, during the construction phase, became sensitized and prone to intergranular stress corrosion cracking (IGSCC). In order to prevent damage, a special procedure was devised to assure that they would not be exposed to the chemical environment conducive to such type of corrosion. The subsystems containing sensitized stainless steel piping which communicated with the RWST and which contained stagnant water were required by TS Sections 4.1.E and 4.1.H to undergo monthly flushing to assure that chloride and fluoride concentrations remained below 0.15 ppm. The flush flow paths were as follows: containment spray pump discharge, low head safety injection pump discharge, low head safety injection pump up to first isolation valve, high head safety injection pump inside containment, and the high head safety injection pump discharge.

In an effort to upgrade the plant's TS, the licensee proposed that the requirement of TS Sections 4.1.E and 4.1.H for monthly flushing be replaced by flushing only during refueling or whenever the concentrations of chloride and/or fluoride in the RWST exceed 0.15 ppm. Flushing would then be performed long enough to bring the concentration to below the 0.15 ppm limit.

The licensee has provided justification for the proposed changes. The licensee has determined that, under normal operating conditions, these subsystems will always remain filled with water, impurities concentration would remain in the range of 20-25 ppb for chlorides and 1-2 ppb for fluorides, and that there are no identifiable mechanisms which could account for an increase of these concentrations above the 0.15 ppm limit. Therefore, as long as the water in the RWST meets the specifications, the sensitized stainless steel components are not susceptible to damage. To assure that the water in the RWST remains below this limit, the licensee included in Table 4.1-28 a requirement that the RWST water be sampled weekly for chlorides and fluorides. We have reviewed the justifications provided by the licensee and find that they adequately support the proposed TS amendments.

SUMMARY

On the basis of our evaluation, we find that the changes proposed by the licensee to Technical Specification Sections 4.1.E and 4.1.H of the Surry plant are acceptable.

ENVIRONMENTAL CONSIDERATION

These amendments involve a change to a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. We have determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that 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.

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: December 28, 1990

Principal Contributor:

K. Parczewski