



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 66 TO FACILITY OPERATING LICENSE NO. NPF-30

UNION ELECTRIC COMPANY
CALLAWAY PLANT, UNIT 1
DOCKET NO. STN 50-483

1.0 INTRODUCTION

In its letter dated March 15, 1991, as supplemented by letters dated August 15, 1991 and January 23, 1992, the Union Electric Company (the licensee) requested a revision to Technical Specification 3.4.6.2.f and the associated Bases for the Callaway Plant, Unit 1. The proposed revision would replace the present maximum allowable leakage rate of 1-gallon per minute (gpm) from any of the reactor coolant system pressure isolation valves (PIVs) specified in Table 3.4-1 of the Callaway Technical Specifications (TSs). This new set of maximum allowable leakage rates would be dependent on the size of the PIVs. The proposed maximum allowable leakage of these PIVs would be limited to 0.5 gpm per nominal inch of valve size up to a maximum of 5 gpm.

Additionally, the licensee proposed in its application cited above that Table 3.4-1 be expanded to provide a more detailed description of the 35 affected PIVs and to correct some valve identification numbers and descriptions.

2.0 EVALUATION

The subject TS (i.e., TS 3.4.6.2) establishes six separate criteria of reactor coolant system (RCS) maximum allowable leakage rates. One of these is the maximum allowable leakage rate from the RCS PIVs which are presently limited to 1 gpm for each PIV (TS 3.4.6.2.f). The licensee proposed that this single value be replaced by limiting leakage rates dependent on the nominal diameter of the PIVs. Specifically, the licensee has proposed that the maximum allowable leakage rate for the 35 PIVs listed in Table 3.4-1 of the Callaway TSs be established as 0.5 gpm per nominal inch of valve size up to a maximum value of 5 gpm at an RCS pressure of 2235 \pm 20 pounds per square inch gauge (psig).

The present value of the maximum allowable leakage rate of 1 gpm for each PIV, independent of size, is arbitrary in that this TS limit does not recognize that leakage through check valves tends to be larger as valve size increases. (This is related to the leakage area being proportional to the valve diameter.) As a result, this use of a single, relatively low limiting value of PIV leakage for the larger valves requires them to be reworked for the same limiting leakage rate as that for a small PIV. However, a measured leakage rate of 1 gpm from a 2-inch PIV is more significant than a leakage of 1 gpm from a 10-inch PIV in that it is indicative of greater degradation.

The net result is that the larger PIVs will tend to be reworked more frequently than justified, considering the significance of the 1 gpm leakage through these larger valves. The licensee's proposal, to the extent that it reduces excessive reworking of the larger PIVs, will thereby reduce radiation exposure to the plant operating personnel.

The licensee's proposal to revise the leakage limit for the PIVs in TS Table 3.4-1 introduces a more rational correlation between the size of a PIV and its limiting leakage rate. Inasmuch as this proposed revision does not change the limits on identified or unidentified leakage from the RCS, there will be no significant increase in the total leakage outside the reactor primary containment and no significant increase in the amount of radioactivity released to the environment under normal or accident conditions. The proposed change will allow operation with some increase in the leakage from certain PIVs, however plant operation will continue to be restricted by the TS limits on total leakage. The slight increase in allowable leakage from individual PIVs is still sufficiently conservative to permit the identification of significant valve degradation. Additionally, the Bases section is revised to delete the specific reference to 1 gpm leakage for any RCS pressure isolation valve, consistent with the proposed change to TS 3.4.6.2.f.

The licensee stated in its supplemental letter dated August 15, 1991 that there is more than sufficient pressure relief capacity downstream of the PIVs to prevent overpressurization of piping and equipment as a result of the proposed higher limiting leakage rates.

Based on discussions with the staff, the licensee revised its original request on January 25, 1992. The revised request changed the leakage limit for valves which are 2-inches or smaller to 0.5 gpm per nominal inch of valve size. This change is consistent with the Standard Technical Specifications. The revised limits are more conservative than those originally proposed by the licensee and therefore, this revision does not alter the staff's original proposed no significant hazards determination.

Accordingly, the NRC staff finds the licensee's proposal acceptable on the basis that it will tend to decrease radiation exposure to plant operating personnel and will allow continued plant operation without a significant increase in the resulting leakage from the reactor primary containment. The staff concludes, therefore, that there is no significant increased risk to public health and safety.

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves 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 this amendment involves no significant hazard consideration and there has been no public comment on such finding (56 FR 24220). Accordingly, this amendment meets 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 this amendment.

5.0 CONCLUSION

The staff 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Date: January 24, 1992