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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 105 TO FACILITY OPERATING LICENSE NO. NPF-30

UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT 1

DOCKET NO. 50-483

1.0 INTRODUCTION

By letter dated June 23, 1995, Union Electric Company (UE), requested an amendment to Operating License NPF-30, which would change the technical specifications (TS) for the Callaway Plant, Unit 1. The proposed amendment would revise the surveillance requirements (SRs) related to control rod movement testing (TS 4.1.3.1.2), radiation monitoring instrumentation (Table 4.3-3), reactor coolant system (RCS) isolation valve leak testing (TS 4.4.6.2.2.b), pressurizer heater capacity (TS 4.4.3.2), containment spray header testing (TS 4.6.2.1.d), and hydrogen recombiners (TS 4.6.4.2). The proposed changes implement the recommendations of Generic Letter (GL) 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation," dated September 27, 1993. In addition, the licensee proposes revising TS 4.1.1.1.1 and TS 4.1.1.2 related to shutdown margin and TS 3/4.1.3.1 related to movable control assemblies to implement portions of NUREG-1431, "Standard Technical Specifications - Westinghouse Plants."

2.0 BACKGROUND

The NRC conducted a comprehensive examination of SRs in the TSs that require testing during power operation. The evaluation is documented in NUREG-1366, "Improvements to Technical Specification Surveillance Requirements," dated December 1992. The 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 relaxing a small fraction of the TS testing intervals. Based on the results of the evaluations, the NRC issued GL 93-05 to provide guidance to licensees for preparing license amendments to incorporate the TS changes recommended by NUREG-1366.

3.0 EVALUATION

3.1 TS Changes to Incorporate GL 93-05 Recommendations

The licensee has proposed the TS changes described below to incorporate the recommendations of GL 93-05.

TS 4.1.3.1.2 is changed to decrease the frequency of control rod movement testing from at least once per 31 days to at least once per 92 days. The Bases are also changed to reflect the 92-day frequency.

The reduction in testing frequency will reduce perturbations in the reactor systems and reduce the burden of testing on reactor operators. This change is consistent with the recommendations of GL 93-05 and with Callaway's operating experience since there have been no occurrences of mechanical binding of rods. Therefore, the staff finds this change acceptable.

TS Table 4.3-3 is modified to decrease the frequency of analog channel operational tests for radiation monitoring instrumentation from monthly to quarterly.

The reduction in testing frequency will increase the availability of each radiation monitor and reduce the burden on personnel for testing. This change is consistent with the recommendations of GL 93-05 and with Callaway's operating experience since the monitors have consistently met surveillance acceptance criteria. Therefore, the staff finds this change acceptable.

TS 4.4.6.2.2.b is modified to increase the time for remaining in cold shutdown without leak testing the RCS isolation valves from 72 hours to 7 days.

This change will eliminate unnecessary testing during short mid-cycle outages requiring less than 7 days in cold shutdown, thus minimizing the burden on personnel during such outages without reducing the overall effectiveness of the leak identification/quantification program. This change is consistent with the recommendations of GL 93-05 and with Callaway's operating experience since the RCS pressure isolation valves have consistently met the leakage criteria set forth in TS. Therefore, the staff finds this change acceptable.

TS 4.4.3.2 is modified to decrease the frequency of verifying the capacity of the pressurizer heaters from once per 92 days to once each refueling interval.

This change will reduce the testing burden on plant personnel and minimize unnecessary operation of RCS pressure control equipment. This change is consistent with the recommendations of GL 93-05 for plants, such as Callaway, without dedicated safety-related heaters. It is also consistent with Callaway's operating experience since there have been no failures of the back-up heaters to meet surveillance requirements. Therefore, the staff finds this change acceptable.

TS 4.6.2.1.d is modified to change the air or smoke flow test of the containment spray header from once per 5 years to once per 10 years.

This change is consistent with the recommendations of GL 93-05 and with Callaway's operating experience since the containment spray system has not had any failures associated with spray header/nozzle testing. Therefore, the staff finds this change acceptable.

TS 4.6.4.2 is modified to change the surveillance frequency of the hydrogen recombiner functional test from once per 6 months to once each refueling interval. The frequency of the hydrogen recombiner channel calibration, visual examination, and resistance to ground tests will be changed from at least once per 18 months to once per refueling interval.

The change to the functional test is consistent with the recommendations of GL 93-05 and with Callaway's operating experience since the hydrogen recombiners have never failed a functional test. Since Callaway is on an 18-month refueling interval, the change from every 18 months to each refueling interval for the channel calibration, visual examination, and resistance to ground tests does not change the frequency of the surveillances but makes the wording of the TS consistent. Therefore, the staff finds these changes acceptable.

3.2 Changes to Implement Portions of NUREG-1431

The licensee's proposal revises TS 4.1.1.1.1 and TS 4.1.1.2 related to shutdown margin and TS 3/4.1.3.1 related to movable control assemblies to implement portions of NUREG-1431, "Standard Technical Specifications - Westinghouse Plants."

TS 4.1.1.1.1 for Modes 3 and 4, and TS 4.1.1.2 for Mode 5 currently require that shutdown margin be determined to be within the limits:

a. Within 1 hour after detection of an inoperable control rod(s) and at least once per 12 hours thereafter while the rod(s) is inoperable. If the inoperable control rod is immovable or untrippable, the SHUTDOWN MARGIN shall be verified acceptable with an increased allowance for the withdrawn worth of the immovable or untrippable control rod(s);

The licensee's proposal eliminates TS 4.1.1.2.a and revises the wording for TS 4.1.1.1.1.a to read:

a. Within 1 hour after detection of an inoperable (untrippable) rod(s) and at least once per 12 hours thereafter while the rod(s) is inoperable. The above required SHUTDOWN MARGIN shall be verified acceptable with an increased allowance for the withdrawn worth of the untrippable rod(s);

In Mode 5 the rod alignment limits do not apply because the control rods are bottomed and the reactor is shut down and not producing fission power. Therefore, the proposed change to eliminate TS 4.1.1.2.a removes a requirement that is not applicable in the Mode specified for the surveillance. This change is also consistent with the requirements of NUREG-1431. Therefore, the staff finds this change acceptable.

The proposed change to TS 4.1.1.1.1.a clarifies that the 12-hour shutdown margin calculation is only required in Modes 3 and 4 if a rod is untrippable. Similar to the discussion above, in Modes 3 and 4 the rod alignment limits do not apply because the control rods are bottomed and the reactor is shut down and not producing fission power. In Mode 3, however, since the shutdown banks are moved during startup or shutdown, the licensee's proposed change retains the requirement for a one hour shutdown margin verification for untrippable rods. The proposed change eliminates a requirement that is not applicable in the mode specified for the surveillance. Therefore, the staff finds this change acceptable.

The licensee's proposal revises TS 3/4.1.3.1 related to movable control assemblies by eliminating action requirements for immovable but trippable rods and for problems in the rod control system that do not make rods untrippable. The action requirements for an untrippable rod are also modified to more closely reflect the actions of NUREG-1431.

Specifically, all references to rod control alarms, electrical failures, and rod immovability are eliminated. The deletion of these references does not change the requirement that rods be capable of inserting adequate negative reactivity upon a trip. The requirements for operability will continue to assure that acceptable power distribution limits are maintained; that the minimum shutdown margin is maintained; and, that the potential effects of rod misalignment on associated accident analyses are limited. These changes are also consistent with the specifications of NUREG-1431. Therefore, the staff finds these changes acceptable.

The proposal also modifies Action a for an untrippable rod by adding a requirement to initiate boration within 1 hour to restore shutdown margin. This change is more conservative and adds a requirement that is consistent with the specifications of NUREG-1431. Therefore, the staff finds this change acceptable.

TS 4.1.3.1.2 is modified to add the word "(trippable)" to clarify the intent of the test. This change is consistent with the changes discussed above and with the specifications of NUREG-1431. Therefore, the staff finds this change acceptable.

Finally, the Bases for TS 3/4.1.3 is changed to reflect the changes discussed above. The revised Bases accurately reflect the TS changes discussed above and are consistent with the Bases of NUREG-1431. Therefore, the staff finds the changes acceptable.

4.0 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.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes 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 and changes surveillance requirements. 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 hazards consideration and there has been no public comment on such finding (60 FR 45187). 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.

6.0 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: December 7, 1995