



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 144 TO FACILITY OPERATING LICENSE NO. NPF-10
AND AMENDMENT NO. 135 TO FACILITY OPERATING LICENSE NO. NPF-15
SOUTHERN CALIFORNIA EDISON COMPANY
SAN DIEGO GAS AND ELECTRIC COMPANY
THE CITY OF RIVERSIDE, CALIFORNIA
THE CITY OF ANAHEIM, CALIFORNIA
SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3
DOCKET NOS. 50-361 AND 50-362

1.0 INTRODUCTION

On September 12, 1995, the U.S. Nuclear Regulatory Commission (NRC) approved issuance of a revision to 10 CFR Part 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors" which was subsequently published in the Federal Register on September 26, 1995, and became effective on October 26, 1995. The NRC added Option B, "Performance-Based Requirements," to allow licensees to voluntarily replace the prescriptive testing requirements of 10 CFR Part 50, Appendix J, with testing requirements based on both overall leakage rate performance and the performance of individual components.

By application dated May 11, 1998, as supplemented October 9, 1998, Southern California Edison Company (SCE or the licensee) requested changes to the Technical Specifications (TS) for the San Onofre Nuclear Generating Station, Unit Nos. 2 and 3 (SONGS). The requested changes would permit implementation of 10 CFR Part 50, Appendix J, Option B. The licensee has established a "Containment Leakage Rate Testing Program" and proposed adding this program to the TS. The program references Regulatory Guide 1.163, "Performance-Based Containment Leak Test Program," dated September 1995, which specifies a method acceptable to the NRC for complying with Option B.

The supplemental letter dated October 9, 1998, corrected the definition of the peak containment internal pressure to be in accordance with 10 CFR Part 50, Appendix J, Option B. The revision did not change the no significant hazards consideration determination published in the Federal Register on September 9, 1998 (63 FR 48265).

2.0 BACKGROUND

Compliance with 10 CFR Part 50, Appendix J, provides assurance that the primary containment, including those systems and components which penetrate the primary containment, do not exceed the allowable leakage rate specified in the TS and Bases. The allowable leakage rate is determined so that the leakage rate assumed in the safety analyses is not exceeded.

On February 4, 1992, the NRC published a notice in the Federal Register (57 FR 4166) discussing a planned initiative to begin eliminating requirements marginal to safety which impose a significant regulatory burden. Appendix J to 10 CFR Part 50, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors," was considered for this initiative and the staff undertook a study of possible changes to this regulation. The study examined the previous performance history of domestic containments and examined the effect on risk of a revision to the requirements of Appendix J. The results of this study are reported in NUREG-1493, "Performance-Based Leak-Test Program."

Based on the results of this study, the staff developed a performance-based approach to containment leakage rate testing. On September 12, 1995, the NRC approved issuance of this revision to 10 CFR Part 50, Appendix J, which was subsequently published in the Federal Register on September 26, 1995, and became effective on October 26, 1995. The revision added Option B, "Performance-Based Requirements," to Appendix J to allow licensees to voluntarily replace the prescriptive testing requirements of Appendix J with testing requirements based on both overall and individual component leakage rate performance.

Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995, was developed as a method acceptable to the NRC staff for implementing Option B. This regulatory guide states that the Nuclear Energy Institute (NEI) guidance document NEI 94-01, Rev. 0, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," provides methods acceptable to the NRC staff for complying with Option B with four exceptions which are described therein.

Option B requires that Regulatory Guide 1.163 or another implementation document used by a licensee to develop a performance-based leakage testing program must be included, by general reference, in the plant TS. The licensee has referenced Regulatory Guide 1.163 in the proposed San Onofre TS 5.5.2.15.

Regulatory Guide 1.163 specifies an extension in Type A test frequency to at least one test in 10 years based upon two consecutive successful tests. Type B tests may be extended up to a maximum interval of 10 years based upon completion of two consecutive successful tests and Type C tests may be extended up to 5 years based on two consecutive successful tests.

By letter dated October 20, 1995, NEI proposed TS to implement Option B. After some discussion, the staff and NEI agreed on final model TS which were transmitted to NEI in a letter dated November 2, 1995. These TS are to serve as a model for licensees to develop plant-specific TS in preparing amendment requests to implement Option B.

In order for a licensee to determine the performance of each component, factors that are indicative of or affect performance, such as an administrative leakage limit, must be established. The administrative limit is selected to be indicative of the potential onset of component degradation. Although these limits are subject to NRC inspection to assure that they are selected in a reasonable manner, they are not TS requirements. Failure to meet an administrative limit requires the licensee to return to the minimum value of the test interval.

Option B requires that the licensee maintain records to show that the criteria for Type A, B and C tests have been met. In addition, the licensee must maintain comparisons of the performance of the overall containment system and the individual components to show that the test intervals are adequate. These records are subject to NRC inspection.

3.0 EVALUATION

The licensee's application for amendment dated May 11, 1998, proposes to establish a "Containment Leakage Rate Testing Program" and proposes to add this program to the TS. The program references Regulatory Guide 1.163, "Performance-Based Containment Leak Test Program," dated September 1995, which specifies methods acceptable to the NRC for complying with Option B. This requires changes to existing TS 3.6.1.1, 3.6.2.1 and 3.6.3.6 and the addition of the "Containment Leakage Rate Testing Program" as TS Section 5.5.2.15. The corresponding Bases would also be modified.

Option B permits a licensee to choose Type A; or Type B and C; or Type A, B and C; testing to be done on a performance basis. The licensee has elected to perform Type A, B, and C testing on a performance basis.

While the proposed TS changes are consistent with the model TS provided in the staff's November 2, 1995 letter, differences were identified during the staff review and are discussed in the following Sections 3.1 and 3.2.

3.1 Interval Extension for Type A, B and C Containment Leak Rate Tests

The licensee proposed a Containment Leakage Rate Testing Program described in TS Section 5.5.2.15 in accordance with RG 1.163, dated September 1995. RG 1.163 states that NEI guidance document NEI 94-01, Rev. 0, provides a method acceptable to the NRC staff for complying with Option B, with exceptions noted in the RG. NEI 94-01, Rev. 0, specifies that the containment leak rate test intervals may be increased to certain nominal maximums based on performance, and then further extended by an additional marginal amount, consistent with standard scheduling practices for TS surveillance requirements. SCE proposed to identify these additional marginal interval extensions for Type A, B and C tests explicitly in TS Section 5.5.2.15. The model TS do not identify these interval extensions in the TS. Since the interval extensions are consistent with NEI 94-01, Rev. 0 as endorsed by RG 1.163 dated September 1995, the staff finds it acceptable to explicitly identify them within TS 5.5.2.15.

3.2 Peak Calculated Containment Internal Pressure

Appendix J, Option B of 10 CFR Part 50 defines "Pa" as "the calculated peak containment internal pressure related to the design basis loss-of-coolant accident as specified in the Technical Specifications." The SCE submittal dated May 11, 1998, proposed to define "Pa" in TS 5.5.2.15 as follows:

"The peak calculated containment internal pressure for the design basis Main Steam Line Break [MSLB], Pa, is 56.6 psig."

This proposed definition is not in accordance with the definition for "Pa" in 10 CFR Part 50, Appendix J, Option B since it defines "Pa" resulting from a design basis MSLB and not a design basis LOCA. For SONGS, the peak containment internal pressure that would result from a design basis MSLB in containment is calculated to be 56.6 psig. The SONGS peak containment internal pressure that would result from a design basis LOCA is calculated to be 55.1 psig, which is less than the MSLB related peak containment pressure. While both events would result in high containment pressures, the LOCA results in a much higher level of radioactive fission product release into the containment atmosphere. Therefore the regulation explicitly defines "Pa" based on a design basis LOCA.

The NRC staff discussed this with the licensee on September 16, 1998. In a subsequent submittal dated October 9, 1998, SCE revised the proposed definition of "Pa" in TS 5.5.2.15 to the following:

"The calculated peak containment internal pressure related to the design basis loss-of-coolant accident, Pa, is 55.1 psig (Pa will conservatively be assumed to be equal to the calculated peak containment internal pressure for the design basis Main Steam Line Break (56.6 psig) for the purpose of containment testing in accordance with this Technical Specification)."

This proposed definition of "Pa" meets the requirements of 10 CFR Part 50, Appendix J, Option B. Therefore the staff finds this definition to be acceptable. For the purpose of containment testing, SCE will use the higher value that is based on the calculated peak containment pressure that would result from a design basis MSLB. Since this calculated pressure is greater than the calculated peak containment pressure that would result from a design basis LOCA, the staff finds leak testing containment at this higher pressure to be conservative, and therefore acceptable.

The staff finds that the TS changes proposed by the licensee meet the requirements of 10 CFR Part 50, Appendix J, Option B. The proposed TS changes are also consistent with both the guidance of Regulatory Guide 1.163 and the model TS provided in the staff's November 2, 1995 letter. The differences from the model TS discussed in Sections 3.1 and 3.2 do not alter the staff's conclusions.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes surveillance requirements. The NRC 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 the amendment involves no significant hazards consideration, and there has been no public comment on such finding (63 FR 48265). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). This amendment also involves changes in record keeping, reporting or administrative procedures or requirements. Accordingly, with respect to these items, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 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 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: November 6, 1998