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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 118 TO PROVISIONAL OPERATING LICENSE NO. DPR-13

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT NO. 1

DOCKET NO. 50-206

1.0 INTRODUCTION

By letters dated March 20, 1987, and July 22, 1988, Southern California Edison Company (the licensee) requested several changes to the plant Technical Specifications (TS) for the San Onofre Nuclear Generating Station, Unit 1. The proposed TS changes involve Sections 4.3.1.II.A and 4.3.1.II.C regarding the test pressure and schedule for Type B containment air lock leak rate testing. Two changes are editorial in nature. The other two are as follows: (1) adding a requirement to test the air lock prior to establishing containment integrity if maintenance has been performed on the air lock which could affect the sealing capability, and (2) reducing the test pressure for the air lock from 10 psig to 3 psig.

2.0 EVALUATION

The first proposed editorial change is to relocate the test schedule for the lower pressure test of the air lock from Section 4.3.1.II.A to Section 4.3.1.II.C. The relocation does not affect the technical specification requirements but merely puts them in the same section with other air lock testing requirements. The second proposed editorial change is to revise requirement (2) of Section 4.3.1.II.C to specify that the air lock shall be tested within 72 hours following each "closing" instead of each "opening." The proposed change will eliminate unnecessary air lock testing when containment integrity is not established and air lock doors are open continuously as discussed in Appendix J to 10 CFR Part 50. When containment integrity is established, Appendix J requires air locks to be tested within 3 days after being opened. In order to maintain containment integrity, the air lock doors are required to be closed except during transit entry. Transient entry involves infrequent, short duration opening and closing of the air lock doors. Therefore, the change from "opening" to "closing" is acceptable as there is essentially no difference when applied to transient air lock use during Modes 1, 2, 3 and 4. The proposed wording is also consistent with that in the Westinghouse standard technical specifications (STS). The staff finds the above two changes acceptable, because they are only editorial in nature and provide clarification of requirements.

The third proposed change adds paragraph "(3)" to Section 4.3.1.II.C, which requires an overall air lock test at 49.4 psig (Pa) to be performed prior to establishing CONTAINMENT INTEGRITY only when maintenance has been done on the air lock that could affect its sealing capability. Otherwise, a seal test will be performed on the air lock. However, paragraph III.D.2(b)(ii) of Appendix J states: "Air locks opened during periods when containment integrity is not required by the plant's Technical Specifications shall be tested at the end of such periods at not less than Pa." Therefore the licensee's proposed change requires an exemption from Appendix J. By letter dated July 22, 1988, the licensee provided justification for the proposed request.

Whenever the plant is in cold shutdown (mode 5) or refueling (mode 6), containment integrity is not required. However, if an air lock is opened during modes 5 and 6, Paragraph III.D.2(b)(ii) of Appendix J requires that an overall air lock leakage test at not less than Pa be conducted before plant heatup and startup (i.e., entering mode 4). The existing air lock doors are so designed that a full-pressure (i.e., Pa (49.4 psig)) test of an entire air lock can only be performed after strongbacks (structural bracing) have been installed on the inner door. Strongbacks are needed because the pressure exerted on the inner door during the test is in a direction opposite to that of the accident pressure direction. Installing strongbacks, performing the test, and removing the strongbacks requires several hours, during which access through the air lock is prohibited.

When no maintenance has been performed on the air lock that could affect its sealing capability, and the air lock doors have been closed in accordance with the licensee's procedure, and the periodic 6-month test at Pa required by Paragraph III.D.2(b)(i) of Appendix J has been performed on schedule, there is no reason to expect the air lock to leak excessively just because it has been opened in a shutdown or refueling mode. Performing the door seal leak test (10 psig) of Paragraph III.D.2(b)(iii) of Appendix J is sufficient, in this case, to demonstrate the continuing integrity of the air lock.

Accordingly, the staff concludes that the licensee's proposed approach of substituting the seal leakage test of Paragraph III.D.2(b)(iii) for the full-pressure test of Paragraph III.D.2(b)(ii) of Appendix J is acceptable when no maintenance that could affect sealing capability has been performed on an air lock. Whenever maintenance that could affect sealing capability has been performed on an air lock, the requirements of Paragraph III.D.2(ii) of Appendix J must still be met by the licensee.

The special circumstances for granting this exemption pursuant to 10 CFR 50.12 have also been identified. The purpose of Appendix J to 10 CFR 50 is to ensure that containment leaktight integrity can be verified periodically throughout service lifetime so as to maintain containment leakage

within the limits specified in the facility Technical Specifications. The proposed alternative test method is sufficient to achieve this underlying purpose in that it provides adequate assurance of continued leaktight integrity of the air lock. Because of this, the staff has previously granted this same exemption to other plants and intends to revise Appendix J to alleviate the need for further similar exemptions. Consequently, the special circumstances described by 10 CFR 50.12(a)(2)(ii) exist in that application of the regulation in these particular circumstances is not necessary to achieve the underlying purpose of the rule since the licensee has proposed an acceptable alternative test method that accomplishes the intent of the regulation.

Therefore, a partial exemption from this requirement (10 CFR 50, Appendix J, Paragraph III.D.2(b)(ii)) is justified and acceptable, and the licensee's proposal to adopt Surveillance Requirement 4.6.1.3 of Revision 4 of NUREG-0452, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors," is acceptable (NUREG-0452, Rev. 4, was written to accommodate this type of exemption). Further, the staff finds that, in accordance with 10 CFR 50.12(a)(1), the requested partial exemption represents special circumstances, as discussed above and is consistent with the intent of Appendix J.

The fourth proposed change is to reduce the test pressure for the air lock from 10 psig to 3 psig. The licensee stated that the forces exerted on the inner lock door at the existing test pressure (10 psig) are excessive and potentially damaging to the door mechanism. The licensee also stated that the leakage test methods are adequate to accomplish the objective to assure proper sealing of the door at a 3 psig test pressure. However, the staff finds that a test pressure of 3 psig is different from that normally used in other plants, and the licensee has not provided sufficient analysis to demonstrate why 10 psig is excessive and 3 psig is adequate. From the licensee's justification, which is qualitative in nature, it appears that any test pressure could be sufficient. The staff finds additional quantitative analysis is needed to justify the proposed change.

By letter dated February 8, 1985, the staff also found the licensee's proposed acceptance criteria for air lock leak testing to be unacceptable. Subsequently, by letter dated April 29, 1985, the licensee committed to propose a technical specification with acceptance criteria for air lock testing following modifications to the air lock. However, to date, the licensee has not fulfilled this commitment. Because the air lock test pressure and acceptance criteria are related, the staff believes they should be reviewed together. This matter was discussed with the licensee

on September 24, 1987. In that discussion the licensee agreed to provide additional information including the acceptance criteria for air lock testing following modification and further analysis to justify the 3 psig test pressure. In the letter of July 22, 1988, the licensee stated that the promised information was in preparation and would be provided by September 30, 1988. Because of the continuing delay in receipt of the additional information, the staff is denying this portion of the requested change.

Based on the above, the staff concludes that the licensee's proposed changes to Technical Specification Sections 4.3.1.II.A and 4.3.1.II.C regarding (1) relocation of the air leak lower pressure test schedule and (2) specification of air lock testing within 72 hours of closing, are in accordance with the applicable requirements of Appendix J to 10 CFR 50 and the Westinghouse STS and are, therefore, acceptable. Further, the staff concludes that the licensees proposal to perform an air lock seal test after maintenance is consistent with the intent of Appendix J, and therefore, the requested exemption from Appendix J in accordance with the requirements of 10 CFR 50.12 should be granted. However, the staff can not accept the licensee proposed reduction of the air lock test pressure from 10 psig to 3 psig without further information from the licensee.

3.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and finding of no significant impact have been prepared and published in the Federal Register on January 12, 1989 (54 FR 1258). Accordingly, based upon the environmental assessment, the Commission has determined that the issuance of this amendment will not have a significant effect on the quality of the human environment.

4.0 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, (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.

Principal Contributors: C. Y. Li and C. M. Trammell

Dated: January 25, 1989