UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. for a Class 103 License to Acquire, Possess, and Use a Utilization Facility as Part of Unit 2 of the San Onofre Nuclear Generating Station	)	Docket No. 50-361 Amendment Application No. 143

SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. pursuant to 10 CFR 50.90, hereby submit Amendment Application No. 143.

This amendment application consists of proposed Technical Specification Change No. NPF-10-438 to Facility Operating License No. NPF-10. Proposed Technical Specification Change NPF-10-438 will revise Technical Specification 3/4.6.1.2, "Containment Leakage." This proposed change will provide a one-time change to the testing schedule for the Type A Integrated Leak Test required by 10CFR50, Appendix J, Section III.D.1.(a).

Subscribed on this 17TH day of AUGUST, 1994.

Respectfully submitted,

SOUTHERN CALIFORNIA EDISON COMPANY

By: _____
Richard. M. Rosenblum
Vice President

State of California
County of Orange
On 8/17/94 before me, BARBARA A. McCARTHY/NOTARY PUBLIC, personally appeared RICHARD M. ROSENBLUM personally known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Signature Barbara A. McCarthy

OFFICIAL SEAL
BARBARA A. MC CARTHY
Notary Public-California
ORANGE COUNTY
My Commission Expires
March 31, 1995

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. for a Class 103 License to Acquire, Possess, and Use a Utilization Facility as Part of Unit 3 of the San Onofre Nuclear Generating Station	)	Docket No. 50-362 Amendment Application No. 127

SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. pursuant to 10 CFR 50.90, hereby submit Amendment Application No. 127.

This amendment application consists of proposed Technical Specification Change No. NPF-15-438 to Facility Operating License No. NPF-15. Proposed Technical Specification Change NPF-15-438 will revise Technical Specification 3/4.6.1.2, "Containment Leakage." This proposed change will provide a one-time change to the testing schedule for the Type A Integrated Leak Test required by 10CFR50, Appendix J, Section III.D.1.(a).

Subscribed on this 17TH day of AUGUST, 1994.

Respectfully submitted,

SOUTHERN CALIFORNIA EDISON COMPANY

By: _____
Richard. M. Rosenblum
Vice President

State of California
County of Orange
On 8/17/94 before me, BARBARA A. McCARTHY/NOTARY PUBLIC, personally appeared RICHARD M. ROSENBLUM, personally known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Signature Barbara A. McCarthy

OFFICIAL SEAL
BARBARA A. MC CARTHY
Notary Public-California
ORANGE COUNTY
My Commission Expires
March 31, 1998

DESCRIPTION AND SAFETY ANALYSIS
OF PROPOSED CHANGE NPF-10/15-438

This is a request to revise Technical Specification (TS) 3/4.6.1.2, "Containment Leakage," to provide a one-time change to the schedule for the Type A Integrated Leak Rate Test at San Onofre Units 2 and 3.

Existing Specifications

Unit 2: Attachment "A"
Unit 3: Attachment "B"

Proposed Specifications

Unit 2: Attachment "C"
Unit 3: Attachment "D"

Description

The following change is proposed for the San Onofre Units 2 and 3 Technical Specifications (TSs):

> Add a footnote to Surveillance Requirement (SR) 4.6.1.2.a. This footnote will read, "One time only, a test interval of 60 ± 10 months will be allowed between Type A tests such that for the Cycle 8 refueling outage no Type A test will be required. This is an exemption from 10CFR50, Appendix J, Section III.D.1.(a)."

Background

The NRC is currently examining those regulations which may be revised to reduce regulatory burden on licensees without a significant impact on safety. As part of this effort, the NRC is currently processing a proposed revision to 10CFR50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors." The current proposal for a revised Appendix J will relax schedule requirements for Type A Integrated Leak Rate Tests (ILRTs) and change the schedule for Type B and C Local Leak Rate Tests (LLRTs) to a performance-based schedule.

According to SECY 94-036, this proposed rule change will not be approved until approximately August, 1995. Therefore, licensees who have refueling outages scheduled prior to August 1995 will not be able to implement the revised rule to make use of the relaxed requirements during these refueling outages.

The Cycle 8 refueling outages for San Onofre Units 2 and 3 are currently scheduled to begin on February 11, 1995 and June 15, 1995, respectively. Southern California Edison (Edison) is therefore requesting a one-time change to the Type A ILRT test schedule for the Cycle 8 refueling outages. Although changes to the acceptance criteria for leak rate tests and schedules for Type B and C tests are part of the proposed rule change, no change to the affected TSs is currently being sought for these requirements.

Edison intends to be consistent with the new rule after it has been issued. Therefore, it is our expectation based on the current rule being considered by the NRC that the test frequency for ILRTs will be extended to once per 10 years.

This proposed change involves an exemption from 10CFR50 Appendix J, Section III.D.1.(a). Enclosure 1 contains an exemption request based on the fact that strict adherence to the current ILRT schedule is not necessary to assure that leakage through the primary containment and containment penetrations does not exceed allowable leakage rates.

Appendix J Requirements

10CFR50 Appendix J, Section III.D.1.(a) requires three ILRTs to be performed at approximately equal intervals during each 10-year service period. The purpose of an ILRT is to detect any gross containment leakage due to an undetected isolation valve open failure, gross containment failure, etc. Appendix J also requires local leak rate testing to ensure containment penetrations are leak tight.

Currently, Surveillance Requirement (SR) 4.6.1.2 requires three ILRTs to be performed during each 10-year service period. To ensure that ILRTs are performed at approximately equal intervals, SR 4.6.1.2 also requires these three tests to be performed every 40 ± 10 months. This is in accordance with the requirements for Type A ILRTs, as specified in the current 10CFR50 Appendix J. In accordance with this SR an ILRT will need to be performed during the Units 2 and 3 Cycle 8 refueling outages.

The most recent ILRTs for Units 2 and 3 were performed in October 1991 and March 1992, respectively. This one-time exemption is to allow the ILRTs scheduled for the Units 2 and 3 Cycle 8 refueling outages to be delayed until Cycle 9.

Assuming that the proposed revision to Appendix J is approved according to the current schedule, Edison would then take credit for the new rule. Based on the current rule being considered by the NRC, this will provide for 1 test per 10 years. However, if the proposed rule is never issued, this proposed change will result in a shortened test interval of approximately 20 months at the end of the current 10-year service period. The current 10-year service period began 10 years following issuance of the operating license for each Unit. Therefore, for Unit 2, the current 10-year service period began on February 16, 1992 and will end February 16, 2002. For Unit 3 the current 10-year service period is from November 15, 1992 to November 15, 2002.

Discussion

In accordance with 10CFR50 Appendix J, Section III.D.1.(a), the current ILRT schedule provides for 3 ILRTs to be performed during each 10-year service period.

The major containment leakage paths include:

1) Penetration Seal Leakage: Air lock door seals; doors with resilient seals or gaskets except for seal welded doors; and penetrations whose design incorporates resilient seals, gaskets, or sealant compounds, piping penetrations fitted with expansion bellows, and electrical penetrations fitted with flexible metal seal assemblies may all exhibit leakage. Type B tests cover this type of leakage and therefore should not affect the necessary ILRT test schedule.

2) Containment Isolation valves. These valves provide either a potential or direct connection between the inside and outside atmospheres of the primary reactor containment under normal operation, are required to close automatically upon receipt of a containment isolation signal in response to controls intended to effect containment isolation, are required to operate intermittently under post accident conditions. Leakage through these valves can be caused by leaking valve seals, isolation valve closure failure, or failure to return a penetration to its normally closed condition following maintenance. For all of these these initiating events except post-maintenance/LLRT errors, this type of leakage is detectable by Type C local leak rate testing. Following any maintenance or operation of a Containment Isolation valve, an LLRT is performed followed by an independent valve alignment verification to ensure that leakage remains within acceptable levels.

3) Gross Containment failure. This is a low probability event which is the only event likely to be detected only by a Type A test.

10CFR50 Appendix J, Section II.K defines the acceptable leakage limit L_a as, "the maximum allowable leakage rate at pressure P_a (calculated design basis accident peak containment pressure) as specified for preoperational tests in the technical specifications or associated bases, and as specified for periodic tests in the operating license." According to TS 3.6.1.2 the acceptance criterion for an ILRT is 0.75 L_a, which for San Onofre Units 2 and 3 are 162800 sccm and 162801 sccm, respectively. The three previous ILRTs for both Units 2 and 3 have all shown acceptable leakage rates as shown in Table 1 below.

TABLE 1
SAN ONOFRE UNITS 2 AND 3
ILRT HISTORY

Unit	Date ILRT performed	0.75 L_a, acceptance limit, sccm	Measured Leak Rate, sccm
2	February 1985	162800	93339
2	October 1987	162800	86827
2	October 1991	162800	98115
3	November 1985	162801	104248
3	July 1988	162801	133714
3	March 1992	162801	92688

Data available for San Onofre Units 2 and 3 show that since 1988 there have been only 2 local leakage rate tests resulting in greater than 0.6 L_a for Type B and C penetrations out of approximately 830 total penetrations tested. Data previous to 1988 involves startup issues and is not representative of the current performance basis. Both of the leakage rate failures were actually detected by LLRTs. No excessive local leaks have been detected by Type A

testing at San Onofre Units 2 and 3 during this period. This leakage rate test history demonstrates that the leaktightness of the containment penetrations at San Onofre Units 2 and 3 has been consistently within acceptable levels. Also, for the two cases when there have been excessive local leakage rates, a Type A ILRT was not necessary to detect the leakage.

Type B and C testing is capable of detecting both penetration seal leakage and containment isolation valve failure. Type A testing can detect local leaks that are not detected by Type B and C testing, especially in the case of a penetration left in a degraded condition following an LLRT or maintenance on the penetration. However, due to administrative controls on maintenance and testing of containment penetrations, since 1988 there has been no such undetected LLRT failure at San Onofre Units 2 and 3 detected by Type A testing.

Therefore, the major safety benefit from Type A testing is the detection of a gross containment failure. In the past ten years there has been no Type A test failure at San Onofre Units 2 and 3, which means that gross containment failure conditions have never been approached during the operating history of Units 2 and 3. Therefore, a one-time exemption from the requirement to perform an ILRT should not result in a significant decrease in the confidence in the leaktightness of the containment structure.

Risk Impact

Based on information provided in Draft NUREG-1493, the increased risk of population dose attributable to extending the test interval from three to five years would be extremely small.

Draft NUREG-1493 includes the results of a sensitivity study performed to explore the risk impact of several alternate leak rate testing schedules. "Alternative 4" from this study examines relaxing the ILRT frequency from 3 in 10 years to 1 in 10 years. Using best estimate data, the draft NUREG concludes that the increase in population exposure risk to those in the vicinity of the five representative plants ranged from 0.02 to 0.14%. This very low impact on risk is attributable to 1) the effectiveness of Type B and C tests in identifying potential leak paths (about 97%), 2) a low likelihood of ILRT-identified leakages in excess of 2 times allowable, and 3) the insensitivity of risk to containment leak rate, (e.g. no discernible increase in population dose risk with containment leak rates 100 times greater than currently allowed). This led the authors of draft NUREG-1493 to conclude that even increasing the ILRT frequency to once per 20 years would "lead to an imperceptible increase in risk."

The exemption requested for San Onofre is concluded to be bounded by the analyses of draft NUREG-1493 for the following reasons: The requested exemption would result in a one-time test interval of five years; not 20 or even 10 years. The population density around San Onofre is well below that of some of the representative plants studied. Finally, no ILRT ever performed at San Onofre has failed.

Nevertheless, Edison is presently in the process of performing a Level 3 Probabilistic Risk Assessment (PRA) to determine the consequence of severe accidents at San Onofre and the risk impact of the requested exemption. Edison plans to complete that analysis and provide the results to the NRC by October 1, 1994. In the interim, Edison believes that there is sufficient information in

the Draft NUREG-1493 to conclude that the risk increase from the requested exemption is low and that the value, in terms of enhanced public safety, of performing an ILRT in 1995 is extremely low.

Cost Benefit

This proposed TS change would save approximately 110 critical path hours per unit during the Cycle 8 refueling outages. At an estimated power replacement cost of approximately $16,000 per hour (according to the Units 2 and 3 Cycle 7 optimization estimates) this results in approximate savings of $1,760,000 per unit. In addition, a savings of approximately 2800 hours of labor and 2000 mRem exposure per unit will also be realized.

Safety Analysis

The proposed change shall be deemed to involve a significant hazards consideration if there is a positive finding in any one of the following areas:

1. Will operation of the facility in accordance with this proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No

   The proposed change will provide a one-time exemption from the 10CFR50 Appendix J Section III.D.1.(a) leak rate test schedule requirement. This change will allow for a one-time test interval for Type A Integrated Leak Rate Tests (ILRTs) of 60 ± 10 months. Therefore, the three ILRTs performed during the current 10-year service period will not be performed at equal intervals.

   Leak rate testing is not an initiating event in any accident, therefore this proposed change does not involve a significant increase in the probability of a previously evaluated accident.

   Type A tests are capable of detecting both local leak paths and gross containment failure paths. The history at San Onofre Units 2 and 3 demonstrates that Type B and C Local Leak Rate Tests (LLRTs) have consistently detected any excessive local leakages. There have been only two LLRTs detecting leakage greater than 0.6 L_a since 1988 at San Onofre Units 2 and 3, and both of these were detected by LLRTs. Both Units 2 and 3 have shown acceptable leakage levels during the previous three ILRTs.

   Administrative controls govern the maintenance and testing of containment penetrations such that the probability of excessive penetration leakage due to improper maintenance or valve misalignment is very low. Following maintenance on any containment penetration, an LLRT is performed to ensure acceptable leakage levels. Following any LLRT on a containment isolation valve, an independent valve alignment check is performed before declaring the penetration OPERABLE. Therefore, Type A testing is not necessary to ensure acceptable leakage rates through containment penetrations.

While Type A testing is not necessary to ensure acceptable leakage rates through containment penetrations, Type A testing is necessary to demonstrate that there are no gross containment failures. Structural failure of the containment is considered to be a very unlikely event, and in fact, since Units 2 and 3 have been in operation, neither Unit has ever failed a Type A ILRT. Therefore, a one-time exemption increasing the interval for performing an ILRT should not result in a significant decrease in the confidence in the leaktightness of the containment structure.

Therefore, this proposed change does not result in a significant increase of the probability or consequences of any previously evaluated accident.

2. Will operation of the facility in accordance with this proposed change create the possibility of a new or different type of accident from any accident previously evaluated?

Response: No

The proposed change does not affect normal plant operations or configuration, nor does it affect leak rate test methods. The proposed change allows a one-time test interval of 60 ± 10 months for ILRTs. Given the test history of San Onofre Units 2 and 3 of no Type A test failures during plant lifetime, the relaxation in schedule should not significantly decrease the confidence in the leaktightness of the containment. Therefore, the proposed change does not create the possibility of a new or different type of accident than any previously evaluated.

3. Will operation of the facility according to this proposed change involve a significant reduction in a margin of safety?

Response: No

The purpose of the existing schedule for ILRTs is to ensure that the release of radioactive materials will be restricted to those leak paths and leak rates assumed in accident analyses. The relaxed schedule for ILRTs does not allow for relaxation of Type B and C LLRTs. Therefore, methods for detecting local containment leak paths and leak rates are unaffected by this proposed change. Given that the test history for ILRTs shows no failure during plant life, a one-time increase of the test interval does not lead to a significant probability of creating a new leakage path or increased leakage rates, and the margin of safety inherent in existing accident analyses is maintained. Therefore, this proposed change does not involve a significant reduction in a margin of safety.

Safety and Significant Hazards Determination

Based on the Safety Analysis, it is concluded that: (1) The proposed change does not constitute a significant hazards consideration as defined by 10CFR50.92 and (2) there is reasonable assurance that the health and safety of the public will not be endangered by the proposed change. Moreover, because this action does not involve a significant hazards consideration, it will also not result in a condition which significantly alters the impact of the station on the environment as described in the NRC Final Environmental Statement.

ATTACHMENT A

EXISTING TECHNICAL SPECIFICATIONS

UNIT 2