

August 24, 2005

Mr. Harold B. Ray
Executive Vice President
Southern California Edison Company
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, CA 92674-0128

SUBJECT: SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3 -
ISSUANCE OF AMENDMENTS ON CONTAINMENT LEAKAGE RATE
TESTING PROGRAM (TAC NOS. MC3797 AND MC3798)

Dear Mr. Ray:

The Commission has issued the enclosed Amendment No. **198** to Facility Operating License No. NPF-10 and Amendment No. **189** to Facility Operating License No. NPF-15 for San Onofre Nuclear Generating Station, Units 2 and 3, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated June 30, 2004, as supplemented by letters dated December 2, 2004, May 27, 2005, and July 18, 2005.

The amendments revise TS 5.5.2.15, "Containment Leakage Rate Testing Program," to include a one-time extension of the 10-year period of the performance-based leakage rate testing program for Type A tests as prescribed by the Nuclear Energy Institute (NEI) 94-01, Revision 0, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J."

A copy of our related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

/RA/

Jack N. Donohew, Senior Project Manager, Section 2
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-361 and 50-362

Enclosures: 1. Amendment No. **198** to NPF-10
2. Amendment No. **189** to NPF-15
3. Safety Evaluation

cc w/encls: See next page

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SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

THE CITY OF RIVERSIDE, CALIFORNIA

THE CITY OF ANAHEIM, CALIFORNIA

DOCKET NO. 50-361

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. **198**

License No. NPF-10

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Southern California Edison Company, et al. (SCE or the licensee), dated June 30, 2004, as supplemented by letters dated December 2, 2004, May 27, 2005, and July 18, 2005, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-10 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. **198**, are hereby incorporated in the license. Southern California Edison Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Daniel S. Collins, Acting Chief, Section 2
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: **August 24, 2005**

ATTACHMENT TO LICENSE AMENDMENT NO.198

FACILITY OPERATING LICENSE NO. NPF-10

DOCKET NO. 50-361

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

REMOVE

5.0-20a

INSERT

5.0-20a

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

THE CITY OF RIVERSIDE, CALIFORNIA

THE CITY OF ANAHEIM, CALIFORNIA

DOCKET NO. 50-362

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. **189**

License No. NPF-15

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Southern California Edison Company, et al. (SCE or the licensee), dated June 30, 2004, as supplemented by letters dated December 2, 2004, May 27, 2005, and July 18, 2005, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-15 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. **189**, are hereby incorporated in the license. Southern California Edison Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Daniel S. Collins, Acting Chief, Section 2
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: **August 24, 2005**

ATTACHMENT TO LICENSE AMENDMENT NO. 189

FACILITY OPERATING LICENSE NO. NPF-15

DOCKET NO. 50-362

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

REMOVE

5.0-20a

INSERT

5.0-20a

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 198 TO FACILITY OPERATING LICENSE NO. NPF-10
AND AMENDMENT NO. 189 TO FACILITY OPERATING LICENSE NO. NPF-15
SOUTHERN CALIFORNIA EDISON COMPANY
SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3
DOCKET NOS. 50-361 AND 50-362

1.0 INTRODUCTION

By application to the Nuclear Regulatory Commission (NRC) dated June 30, 2004 (Agencywide Documents and Access Management System (ADAMS) Accession No. ML041910252), Southern California Edison Company (SCE or the licensee), requested changes to the operating licenses for the San Onofre Nuclear Generating Station (SONGS), Units 2 and 3. The application was supplemented by letters dated December 2, 2004, May 27, 2005, and July 18, 2005 (ADAMS Accession Nos. ML043410074, ML051530089, and ML052010262). The supplements provided information that clarified the application and did not expand the scope of the application as originally noticed, or change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on August 3, 2004 (69 FR 46589).

The amendments revise Technical Specification (TS) 5.5.2.15, "Containment Leakage Rate Testing Program," to allow a one-time change in their Appendix J Type A test (containment integrated leakage rate test (ILRT)) interval from the required 10 years to a test interval of 15 years. The proposed change is consistent with the Nuclear Energy Institute (NEI) 94-01, Revision 0, "Industry Guideline for Implementing Performance-Based Option of 10 CFR [Title 10 of the *Code of Federal Regulations*] Part 50, Appendix J," Section 9.2.3, and modifies the Type A test currently scheduled for January 2006 to be performed no later than March 2010 for SONGS Unit 2; and September 2010 for SONGS Unit 3 (currently scheduled for June 2006). According to SCE, the Type A ILRT imposes significant expense on the licensee while the safety benefit of performing this test at 10 years versus 15 years is minimal.

2.0 REGULATORY EVALUATION

The NRC staff applied the following regulatory requirements in its review of the licensee's application:

Effective October 26, 1995, 10 CFR Part 50, Appendix J was revised to allow for the performance of containment leakage testing in accordance with the requirements of Option A, "Prescriptive Requirements," or Option B, "Performance-Based Requirements." According to the licensee, the current Type A testing interval is 10 years, and its TS was revised to require Types A, B, and C testing in accordance with Regulatory Guide (RG) 1.163, which specifies a

method acceptable to the NRC staff for complying with Option B via the use of NEI 94-01 and ANSI/ANS 56.8-1994, subject to applicable regulatory positions documented in RG 1.163.

3.0 TECHNICAL EVALUATION

3.1 Aging Degradation of the Containment Pressure Boundary

SONGS, Units 2 and 3 are Westinghouse pressurized-water reactors (PWRs) with large reinforced-concrete primary containment. The containment pressure boundary consists of the steel liner, containment access penetrations, and process piping and electrical penetrations. The integrity of the penetrations is verified through Type B and Type C local leak rate tests (LLRT) as required by 10 CFR Part 50, Appendix J, and the overall integrity of the containment structure is verified through an ILRT. These tests are performed to verify the essentially leak-tight characteristics of the containment structure at the design-basis accident (DBA) pressure. As stated in the licensee's June 30, 2004, TS amendment request, the surveillance frequency for Type A testing in NEI 94-01 is once every 10 years based on an acceptable performance history (i.e., two consecutive periodic Type A tests at least 24 months apart where the calculated performance leakage rate was less than 1.0 La) and consideration of the performance factors in NEI 94-01, Section 11.3. Based on the last two consecutive successful ILRT Type A tests (Unit 2 - March 31, 1995, and October 25, 1991; Unit 3 - September 10, 1995, and March 9, 1992) and the requirements of 10 CFR Part 50, Appendix J, Option B, the current interval for SONGS is once every 10 years for both units. With the requested extension of the ILRT time interval, the licensee proposed that the next overall verification of the containment leak-tight integrity be performed by March 20, 2010, for Unit 2 and by September 9, 2010, for Unit 3.

Because the leak rate testing requirements (ILRT and LLRT) of Option B of 10 CFR Part 50, Appendix J, and the containment inservice inspection (ISI) requirements mandated by 10 CFR 50.55a complement each other in ensuring the leak-tightness and structural integrity of the containment, the staff, based on its review of Type A test interval extension applications from other licensees, identified the following five general areas to evaluate in relation to the ISI of the containment and requested the licensee to provide information in these areas:

1. Since the submittal did not include sufficient description or summary of the containment ISI program being implemented at the plant, the licensee was requested to provide a description of the ISI methods that provides assurance that, in the absence of a containment ILRT for 15 to 20 years, the containment structural and leak-tight integrity will be maintained.
2. IWE-1240 of the American Society of Mechanical Engineers (ASME) Code requires licensees to identify the containment surface areas requiring augmented examinations. The licensee was requested to provide the locations of the steel containment (or concrete containment liner) surfaces that have been identified as requiring augmented examination and a summary of the findings of the examinations performed.
3. For the examination of penetration seals and gaskets, and examination and testing of bolted connections associated with the primary containment pressure boundary (Examination Categories E-D and E-G), the licensee requested relief from the requirements of the ASME Code. As an alternative, the licensee proposed to examine

the above items during the leak-rate testing of the primary containment. Option B of Appendix J for Type B and Type C testing (per NEI 94-01 and RG 1.163), and the ILRT extension requested in this amendment for Type A testing, provide flexibility in the scheduling of these inspections. The licensee was requested to discuss the schedule for examination and testing of seals, gaskets, and bolted connections that provides assurance regarding the integrity of the containment pressure boundary.

4. In some cases, stainless steel bellows were found to be susceptible to trans-granular stress corrosion cracking, and the leakage through these bellows is not readily detectable by the Type B testing (see NRC Information Notice 92-20). If applicable, the licensee was requested to provide information regarding plans for inspection and testing of the bellows, and how their performance has been factored into the risk assessment of containment leakage to support the proposed TS change.
5. Inspections of some reinforced concrete and steel containment structures have identified degradation of an uninspectable (embedded) side of the steel liner of the primary containment. These degradations cannot be found by visual (i.e., VT-1 of VT-3) examinations unless they are through the thickness of the shell or liner, or when 100 percent of the uninspectable surfaces are periodically examined by ultrasonic testing. The licensee was requested to discuss how potential leakage under high pressure during core damage accidents is factored into the risk assessment related to the extension of the ILRT.

In its June 30, 2004, submittal, the licensee addressed each of the areas discussed above. The NRC staff's evaluation is as follows:

1. In addressing the first issue, the licensee stated in its June 30, 2004, submittal that the ISI of the SONGS Unit 2 and Unit 3 containment buildings is conducted in accordance with the requirements of the ASME Code, Section XI, 1992 Edition with the 1992 Addenda, as modified and supplemented by 10 CFR 50.55a(b)(2)(viii) and 10 CFR 50.55a(b)(2)(ix). The initial 120-month inspection interval for the containment ISI began on September 9, 1998, and will end on September 8, 2008. Successive 120-month intervals will comply with 10 CFR 50.55a(g)(4)(ii). With the requirements of ASME Code Section XI, Subsection IWE for the Class MC and CC components, SCE had requested and received approval of the relief from the ISI requirements of the ASME Code Section XI, Subsection IWE for the following items: seals and gaskets of Class MC pressure retaining components (Relief Request RR-E-2-03), pressure examination requirements of reapplied or coated containment (Relief Request RR-E-2-04), visual inspection of painted or coated containment components prior to removal of paint or coatings (Relief Request RR-E-02-05), successive examination requirements for components found acceptable for continued service (Relief Request RR-E-02-06), and examination requirements for the pressure retaining bolting (Relief Request RR-E-02-07). The licensee also stated that it, as specified in the ISI program for future activities, will perform the following examinations:
 - C General visual examination of containment surfaces per Examination Category E-A, Item E1.11 of IWE Table 2500-1, every period (once in 40 months) of the 10-year ISI interval as required per 10 CFR 50.55a(b)(2)(ix)(E). The next

scheduled examinations will be in the summer of 2007 (RAO-15) for Unit 2, and in the spring of 2008 (RAO-15) for Unit 3.

- C Visual VT-3 of the containment surfaces per Examination Category E-A, Item E1.12 of IWE Table 2500-1 at the end of the 10-year ISI interval. The next scheduled examinations will be in the summer of 2007 for Unit 2 (RAO-15), and in the spring of 2008 for Unit 3 (RAO-15).
- C Visual VT-3 of containment surface vent system per Examination Category E-A, Item E1.20 of IWE Table 2500-1 at the end of the 10-year ISI interval. The next scheduled examinations will be in the summer of 2007 for Unit 2 (RAO-15), and in the spring of 2008 for Unit 3 (RAO-15).
- C Ultrasonic examination to verify the minimum wall thickness of containment surfaces requiring augmented examination per Examination Category E-C, Item E4.12 of IWE Table 2500-1, every period (once in 40 months) of the 10-year ISI interval. The next scheduled examinations will be in the summer of 2007 for Unit 2 (RAO-15), and in the spring of 2008 for Unit 3 (RAO-15).
- C Visual VT-3 examination on moisture barriers per Examination Category E-D, Item E5.30 of IWE Table 2500-1. The next scheduled examinations will be in the summer of 2007 for Unit 2 (RAO-15), and in the spring of 2008 for Unit 3 (RAO-15).
- C Visual VT-1 examination on bolted connections per Examination Category E-G, Item E8.10 of IWE Table 2500-1. The next scheduled examinations will be in the summer of 2007 for Unit 2 (RAO-15), and in the spring of 2008 for Unit 3 (RAO-15).

Based on the above discussion, the NRC staff finds that the containment ISI program being implemented at SONGS will provide assurance that, in the absence of a containment ILRT for 15 years, the containment structural and leak-tight integrity will be maintained.

2. The licensee stated in its request that in accordance with IWE-1240, "Surface Areas Requiring Augmented Examination," SONGS Unit 2 has identified three locations and SONGS Unit 3 has identified two locations on the steel liner exposed to substantial traffic due to scaffolding material during refueling outages. Liner plate thicknesses at these locations were ultrasonically examined during RAO-11 in November 2000, and RAO-13 in February 2004 for Unit 2, and RAO-11 in January 2001 for Unit 3. Measured thicknesses were greater than design required thickness in all locations and no other degradation of liner plate has been noted. Liner thickness at these locations will also be ultrasonically examined in future refueling outages. On the basis of the above discussion, the NRC staff finds the licensee's response reasonable and acceptable.
3. Regarding issues related to the ISI of seals, gaskets, and pressure-retaining bolted connections, the licensee stated that, in accordance with the NRC-approved relief requests listed in section 4.0 of its June 30, 2004, submittal, the containment penetrations will be pressure tested periodically using a Type B test under Option B of

10 CFR Part 50, Appendix J. In addition, as stated in the listed NRC-approved relief requests, the alternative examinations of 10 CFR Part 50, Appendix J testing will continue to be performed at least once during each containment inspection interval (the Type B test interval for penetrations is a maximum of 10 years; the fuel transfer flange, fuel transfer bellow, and equipment hatch will be tested every refueling outage (about every 20 months); and the test frequency for the air-locks is once per 30 months). Thus, the extension requested for Type A testing does not affect the interval of these alternative examinations because they will be performed once in each 10-year inspection interval. On this basis, the staff finds that the schedule for examination of the seals, gaskets, and bolts will continue to provide reasonable assurance that the integrity of the containment pressure boundary will be maintained.

4. Regarding the inspection of stainless steel bellows, the licensee, in its letter dated December 2, 2004, referred to the SONGS independent safety engineering group (ISEG) operating experience evaluation for NRC Information Notice 92-20. The conclusion of this evaluation states that the events described in NRC Information Notice 92-20 have been reviewed by the Station Technical Engineering and ISEG, and no similar problems at SONGS, Units 2 and 3 have been found. On the basis of the above discussion, the NRC staff finds that the item related to NRC Information Notice 92-20 is adequately addressed.
5. In regard to issues related to the inaccessible areas of the containment liner for which degradations cannot be detected by visual examinations, the licensee, in its June 30, 2004, submittal, performed an ILRT extension risk assessment considering the potential age related corrosion effects on the containment liner integrity and a series of parametric sensitivity studies. The results of the risk assessment indicated that the ILRT interval extension has a minimal impact on plant risk. From its review of the licensee's submittals, the NRC staff finds that the increase in predicted risk due to the proposed change is within the acceptance guidelines while maintaining the defense-in-depth philosophy of RG 1.174 and is, therefore, acceptable. The details of staff's evaluation regarding the risk assessment performed by the licensee is described in Section 3.2 of this safety evaluation.

On the basis of its review of the information provided by the licensee in its TS amendment request, the NRC staff concludes that (1) the structural integrity of the containment vessel is verified through the periodic ISIs that are already conducted as required by Subsection IWE of the ASME Code, Section XI, and (2) the integrity of the penetrations and containment isolation valves will periodically be verified through Type B test as required by 10 CFR Part 50, Appendix J. In addition, the system pressure tests for containment pressure boundary (i.e., Appendix J tests, as applicable) are required to be performed following repair and replacement activities, if any, in accordance with Article IWE-5000 of the ASME Code, Section XI.

3.2 Risk Assessment

The licensee has performed a risk impact assessment of extending the Type A test interval to 15 years. The risk assessment was provided in the licensee's June 30, 2004, application for license amendment. Additional analysis and information were provided by the licensee in its letter dated May 27, 2005. In performing the risk assessment, the licensee considered the guidelines of NEI 94-01, the methodology used in Electric Power Research Institute (EPRI)

Research Project Report TR-104285, "Risk Impact Assessment of Revised Containment Leak Rate Testing," and RG 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis."

The basis for the current 10-year test interval is provided in Section 11.0 of NEI 94-01, Revision 0, and was established in 1995 during the development of the performance-based Option B to Appendix J. Section 11.0 of NEI 94-01 states that NUREG-1493, "Performance-Based Containment Leak-Test Program," provided the technical basis to revise leakage rate testing requirements contained in Option B to 10 CFR Part 50, Appendix J. The basis consisted of qualitative and quantitative assessments of the risk impact (in terms of increased public dose) associated with a range of extended leakage rate test intervals. To supplement this basis, industry undertook a similar study. The results of that study are documented in EPRI Research Project Report TR-104285.

The EPRI study used an analytical approach similar to that presented in NUREG-1493 for evaluating the incremental risk associated with increasing the interval for Type A tests. The 10 CFR Part 50, Appendix J, Option A, requirements that were in effect for SONGS early in the plant's life required a Type A test frequency of 3 tests in 10 years. The EPRI study estimated that relaxing the test frequency from 3 tests in 10 years to 1 test in 10 years would increase the average time that a leak that was detectable only by a Type A test goes undetected from 18 to 60 months. Since Type A tests only detect about 3 percent of leaks (the rest are identified during LLRTs based on industry leakage rate data gathered from 1987 to 1993), this results in a 10 percent increase in the overall probability of leakage. The risk contribution of pre-existing leakage for the PWR and boiling water reactor representative plants in the EPRI study confirmed the NUREG-1493 conclusion that a reduction in the frequency of Type A tests from 3 tests in 10 years to 1 test in 20 years leads to an "imperceptible" increase in risk that is on the order of 0.2 percent and a fraction of one person-rem per year in increased public dose.

Building upon the methodology of the EPRI study, the licensee assessed the change in the predicted person-rem per year frequency. The licensee quantified the risk from sequences that have the potential to result in large releases if a pre-existing leak were present. Since the Option B rulemaking was completed in 1995, the NRC staff has issued RG 1.174 on the use of probabilistic risk assessment (PRA) in evaluating risk-informed changes to a plant's licensing basis. The licensee has proposed using RG 1.174 guidance to assess the acceptability of extending the Type A test interval beyond that established during the Option B rulemaking. RG 1.174 defines very small changes in the risk-acceptance guidelines as increases in core damage frequency (CDF) less than 10^{-6} per year and increases in large early release frequency (LERF) less than 10^{-7} per year. Since the Type A test does not impact CDF, the relevant criterion is the change in LERF. The licensee has estimated the change in LERF for the proposed change and the cumulative change from the original frequency of three tests in a 10-year interval. RG 1.174 also discusses defense-in-depth and encourages the use of risk analysis techniques to help ensure and show that key principles, such as the defense-in-depth philosophy, are met. The licensee estimated the change in the conditional containment failure probability for the proposed change to demonstrate that the defense-in-depth philosophy is met.

The licensee provided analyses, as discussed below. The following comparisons of risk are based on a change in test frequency from 3 tests in 10 years (the test frequency under 10 CFR Part 50, Appendix J, Option A) to 1 test in 15 years. This bounds the impact of extending the

test frequency from 1 test in 10 years to 1 test in 15 years. The following conclusions can be drawn from the analysis associated with extending the Type A test frequency:

1. Given the change from a 3 in 10-year test frequency to a 1 in 15-year test frequency, the increase in the total integrated plant risk is estimated to be less than 0.01 person-rem per year. This increase is comparable to that estimated in NUREG-1493, where it was concluded that a reduction in the frequency of tests from 3 in 10 years to 1 in 20 years leads to an "imperceptible" increase in risk. Therefore, the increase in the total integrated plant risk for the proposed change is considered small and supportive of the proposed change.
2. The increase in LERF resulting from a change in the Type A test frequency from the original 3 in 10 years to 1 in 15 years is estimated to be about 2.0×10^{-7} per year based on the internal events PRA, and 3.8×10^{-7} per year including both internal and external events. The licensee provided additional analyses in which sequences involving operation of containment sprays or flooding of ex-vessel core debris were assumed to not contribute to LERF. When such sequences are eliminated as LERF contributors, the increase in LERF resulting from the requested change is estimated to be about 7.9×10^{-8} per year based on the internal events PRA, and 1.0×10^{-7} per year including both internal and external events. The licensee provided a further evaluation of the major contributors to LERF, specifically, small break loss-of-coolant accidents, and determined that given a more realistic assessment of the probability of sump clogging and the probability of failure to close the sump access hatch prior to startup, the increase in LERF would be further reduced by about 30 percent. There is also some likelihood that the flaws in the containment estimated as part of the Class 3b frequency would be detected as part of the IWE/IWL visual examination of the containment surfaces (as identified in ASME Code, Section XI, Subsections IWE/IWL). Visual inspections are expected to be effective in detecting large flaws in the visible regions of containment, and this would reduce the impact of the extended test interval on LERF. The licensee's risk analysis considered the potential impact of age-related corrosion/degradation in inaccessible areas of the containment shell on the proposed change. The increase in LERF associated with corrosion events is estimated to be less than 1×10^{-8} per year.

When the calculated increase in LERF is in the range of 10^{-7} per year to 10^{-6} per year, applications are considered if the total LERF is less than 10^{-5} per year. The licensee estimates that the total LERF for internal and external events (without the requested change) is approximately 4×10^{-7} per year. Thus, the total LERF including the requested change would remain well below 10^{-5} per year. The NRC staff concludes that increasing the Type A interval to 15 years results in only a small change in LERF and is consistent with the acceptance guidelines of RG 1.174.

3. RG 1.174 also encourages the use of risk analysis techniques to help ensure and show that the proposed change is consistent with the defense-in-depth philosophy. Consistency with the defense-in-depth philosophy is maintained if a reasonable balance is preserved between prevention of core damage, prevention of containment failure, and consequence mitigation. The licensee estimates the change in the conditional containment failure probability to be an increase of approximately one percentage point for the cumulative change of going from a test frequency of 3 in 10 years to 1 in 15 years. The NRC staff finds that the defense-in-depth philosophy is maintained based on

the small magnitude of the change in the conditional containment failure probability for the proposed amendment.

Based on the conclusions above, the NRC staff finds that the increase in predicted risk due to the proposed change is within the acceptance guidelines of RG 1.174 while maintaining the defense-in-depth philosophy of the RG. Based on this, the NRC staff further concludes that the proposed amendments meet the applicable regulatory positions in RG 1.163 and, therefore, are acceptable.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve 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 amendments involve no significant hazards consideration, and there has been no public comment on such finding published August 3, 2004 (69 FR 46589). Accordingly, the amendments meet 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 the amendments.

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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

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