

November 25, 2003

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 AUXILIARY FEEDWATER PUMPS  
SURVEILLANCE FREQUENCY (TAC NOS. MB6938 AND MB6939)

Dear Mr. Ray:

The Commission has issued the enclosed Amendment No. 191 to Facility Operating License No. NPF-10 and Amendment No. 182 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 December 9, 2002, as supplemented by letter dated August 28, 2003.

The amendments revise Technical Specification (TS) 3.7.5, "Auxiliary Feedwater System," Surveillance Requirement (SR) 3.7.5.2 Frequency. Specifically, the wording of the frequency of SR 3.7.5.2 would change from "31 days on a Staggered Test Basis" to "In accordance with the Inservice Testing Program." This change is requested to implement recommendations of the Standard Technical Specifications for Combustion Engineering Plants, NUREG-1432, Revision 2. Such inservice tests confirm component operability, trend performance, and detect incipient failures by indicating abnormal performance.

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/*

Bo M. Pham, 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. 191 to NPF-10  
2. Amendment No. 182 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. 191  
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 December 9, 2002, as supplemented by letter dated August 28, 2003, 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. 191, 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/*

Stephen Dembek, 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: November 25, 2003

ATTACHMENT TO LICENSE AMENDMENT NO. 191

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  
3.7-14

INSERT  
3.7-14

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. 182  
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 December 9, 2002, as supplemented by letter dated August 28, 2003, 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. 182, 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/*

Stephen Dembek, 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: November 25, 2003



ATTACHMENT TO LICENSE AMENDMENT NO. 182

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  
3.7-14

INSERT  
3.7-14

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 191 TO FACILITY OPERATING LICENSE NO. NPF-10  
AND AMENDMENT NO. 182 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

By application dated December 9, 2002, as supplemented by letter dated August 28, 2003, Southern California Edison Company (the licensee), requested changes to the Technical Specifications (TSs) for San Onofre Nuclear Generating Station (SONGS), Units 2 and 3. The proposed changes would revise TS 3.7.5, "Auxiliary Feedwater System," Surveillance Requirement (SR) 3.7.5.2 Frequency. Specifically, the wording of the frequency of SR 3.7.5.2 would change from "31 days on a Staggered Test Basis" to "In accordance with the Inservice Testing Program." This change is requested to implement recommendations of the Standard Technical Specifications for Combustion Engineering Plants, NUREG-1432, Revision 2. Such inservice tests confirm component operability, trend performance, and detect incipient failures by indicating abnormal performance.

The Auxiliary Feedwater (AFW) System automatically supplies feedwater to the steam generators (SGs) to remove decay heat from the Reactor Coolant System upon the loss of normal feedwater supply. The AFW pumps take suction through separate and independent suction lines from the condensate storage tank (CST) and pump to the SG secondary side via separate and independent connections to the main feedwater piping inside containment. The SGs function as a heat sink for core decay heat. The heat load is dissipated by releasing steam to the atmosphere from the SGs via the main steam safety valves (MSSVs) or atmospheric dump valves. If the main condenser is available, steam may be released via the steam bypass valves and recirculated to the CST. The AFW System consists of two motor-driven AFW pumps and one turbine-driven pump configured into three trains. Each motor-driven AFW pump provides 100 percent of AFW flow capacity; the turbine-driven AFW pump provides 100 percent of the required capacity to the SGs as assumed in the SONGS, Units 2 and 3, accident analysis. The pumps are equipped with independent recirculation lines to prevent pump operation against a closed system.

SR 3.7.5.2 verifies that the AFW pumps develop sufficient discharge pressure to deliver the required flow at the full open pressure to the MSSVs. Because it is undesirable to introduce cold AFW into the SGs while they are operating, this test is performed on recirculation flow. Periodically comparing the reference differential pressure developed at this reduced flow detects trends that might be indicative of incipient failures.

The licensee proposes to change the frequency of SR 3.7.5.2 to implement recommendations of the Standard Technical Specifications for Combustion Engineering Plants, NUREG-1432, Revision 2. This safety evaluation (SE) documents the NRC staff's evaluation of the licensee's proposal against regulatory requirements mentioned in Section 2.0.

## 2.0 REGULATORY EVALUATION

The staff finds that the licensee, in section 5.2 of its submittal, identified the applicable regulatory framework. The regulatory requirements and guidance for which the staff based its acceptance are as follows:

*10 CFR Part 50, General Design Criterion (GDC) 34, Residual Heat Removal*, requires a system to remove residual heat. The system safety function is to transfer fission product decay heat and other residual heat from the reactor core at a rate such that specified acceptable fuel design limits and the design conditions of the reactor coolant pressure boundary are not exceeded.

*10 CFR 50.36(c)(3), Surveillance requirements*, requires TSs to test, calibrate, or inspect to assure that the necessary quality of systems and components are maintained.

*10 CFR 50.55a(f), Inservice testing requirements*, requires pumps and valves which are classified as American Society of Mechanical Engineers (ASME) Code Class 2 and Class 3 be designed and be provided with access to enable the performance of inservice testing of the pumps and valves for assessing operational readiness set forth in Section XI of editions of the ASME Boiler and Pressure Vessel Code (Code) and Addenda.

*Regulatory Guide (RG) 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis,"* provides an approach for using probabilistic risk assessment (PRA) in risk-informed decisions on plant-specific changes to the licensing basis.

## 3.0 TECHNICAL EVALUATION

The licensee's current TS 3.7.5, SR 3.7.5.2, frequency requirement satisfies the acceptance criteria of GDC 34, 10 CFR 50.36(c)(3), and 10 CFR 50.55a (f) to ensure that AFW pumps are capable of performing their safety function to prevent exceeding specified fuel design limits and the design conditions of the reactor coolant pressure boundary.

In June 2001, the NRC issued NUREG-1432, Revision 2, "Standard Technical Specifications Combustion Engineering Plants." This NUREG identifies the Frequency of SR 3.7.5.2 as "In accordance with the Inservice Testing Program." Per NUREG-1432, performance of inservice testing as discussed in the ASME Code, Section XI, at 3 month intervals satisfies the

requirement to confirm component operability, trend performance, and detect incipient failures by indicating abnormal performance.

The licensee's change proposal is consistent with NUREG 1432, Revision 2. However, this SE verifies its compliance with the inservice testing requirement of 10 CFR 50.55a(f) of Title 10 of the *Code of Federal Regulations*, and the guidance of RG 1.174. The staff has reviewed the licensee's technical analysis in support of its proposed license amendment, which is described in Section 4.0 of the licensee's submittal. The detailed evaluation below supports the staff's conclusion on this request.

### 3.1 10 CFR 50.55a(f)

The licensee's second 10-year inservice testing program (April 1, 1994, through August 17, 2003, and extended to December 17, 2003), was developed in accordance with the requirements of ASME Boiler and Pressure Vessel Code, Section XI, paragraph IWA-1400(c), 1989 Edition with no Addenda. Paragraph IWA-1400(c) states that pump testing shall be performed in accordance with the requirements stated in ASME/ANSI Operations and Maintenance of Nuclear Power Plants (OM), Part 6, Inservice Testing of Pumps. Where the code requirements are determined to be impractical, a specific request for relief is written and documented.

A Risk-Informed Inservice Testing (RI-IST) Program for determining pump and valve test frequencies in lieu of the test frequencies currently specified by the ASME Code, including Code Case OMN-1, was developed in accordance with the rules and regulations of 10 CFR 50.55a(a)(3). This program was submitted as a relief request to the NRC for review, for both SONGS, Units 2 and 3, in December 1998. The NRC approved this RI-IST Program for pump and valve test frequencies in lieu of the test frequencies currently specified by the ASME Code Section XI, on March 27, 2000. However, because the auxiliary feedwater pumps were evaluated as "high safety significant" components in concert with the process approved under this relief request, they were not assigned a test frequency other than the frequency mandated in the Code, and therefore remain at a quarterly test frequency. In its December 9, 2002, submittal, the licensee, in essence, is requesting a change in the frequency of its SR from "31 days on a Staggered Test Basis" to a quarterly basis per the ASME Code. The statistical significance of this change in frequency is discussed in Section 3.2 of this SE.

The NRC staff concludes, based on the licensee's current approved IST program and the reasoning set forth above, that changing the SR 3.7.5.2 Frequency to "In accordance with the Inservice Testing Program" would adequately meet the requirement of 10 CFR 50.55a(f) for assessing operational readiness of pumps and valves set forth in Section XI of editions of the ASME Boiler and Pressure Vessel Code and Addenda.

### 3.2 RG 1.174

Changing the surveillance frequency of the SONGS, Units 2 and 3, AFW pumps from "31-day on a Staggered Test Basis" to quarterly also changes the statistical significance of SONGS's PRA for core damage frequency (CDF) and large early release frequency (LERF).

The licensee conducted a PRA study in 2002 to determine the effect on CDF and LERF from changing the testing of the auxiliary feedwater pumps SR from a "31 days on a Staggered Test

Basis" to a quarterly frequency. In response to the staff's request for additional information, the licensee provided this study in its letter dated August 28, 2003.

The results of this evaluation showed increases in CDF and LERF that corresponded with "small" increases in risk and meets the acceptance guidelines of NRC RG 1.174. These increases in risk are considered to reflect the bounding impact of the surveillance frequency change. Based on these results, the NRC finds that the licensee's approach is in compliance with the guidance of RG 1.174, and that any increase in risk resulting from the proposed change in surveillance frequency is small and acceptable.

#### 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 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 and changes a surveillance requirement. 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 ( 68 FR 812 dated January 7, 2003). 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.

Principal Contributor: B. Pham

Date: November 25, 2003