

March 17, 1997

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

SUBJECT: ISSUANCE OF AMENDMENT FOR SAN ONOFRE NUCLEAR GENERATING STATION,  
UNIT NO. 3 (TAC NO. M98003)

Dear Mr. Ray:

The Commission has issued the enclosed Amendment No. 127 to Facility Operating License No. NPF-15 for San Onofre Nuclear Generating Station (SONGS), Unit No. 3. The amendment consists of changes to the Technical Specifications (TS) in response to your application dated February 18, 1997, as supplemented by letter dated February 21, 1997.

This amendment defers implementation of Surveillance Requirement 3.3.5.6 of TS 3.3.5, "Engineered Safety Features Actuation System (ESFAS) Instrumentation" for 30 subgroup relays until the next SONGS Unit 3 shutdown, which will be no later than the upcoming Cycle 9 refueling outage (currently scheduled for April 12, 1997).

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,

Original Signed By  
Mel B. Fields, Project Manager  
Project Directorate IV-2  
Division of Reactor Projects III/IV  
Office of Nuclear Reactor Regulation

Docket No. 50-362

Enclosures: 1. Amendment No. 127 to NPF-15  
Enclosures: 2. Safety Evaluation

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Mr. Harold B. Ray

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March 17, 1997

cc w/encls:

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

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 NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 127  
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 February 18, 1997, as supplemented by letter dated February 21, 1997, 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.

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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. 127, 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.

FOR THE NUCLEAR REGULATORY COMMISSION



Mel B. Fields, Project Manager  
Project Directorate IV-2  
Division of Reactor Projects III/IV  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: March 17, 1997

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 127 TO FACILITY OPERATING LICENSE NO. NPF-15

DOCKET NO. 50-362

Revise Appendix A Technical Specifications by removing the page identified below and inserting the enclosed page. The revised page is identified by Amendment number and contains marginal lines indicating the areas of change.

REMOVE

3.3-25

INSERT

3.3-25

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.5.2	Perform a CHANNEL FUNCTIONAL TEST of each ESFAS channel.	30 days on a STAGGERED TEST BASIS
SR 3.3.5.3	Perform a CHANNEL FUNCTIONAL TEST of each ESFAS channel bypass removal function.	120 days
SR 3.3.5.4	Perform a CHANNEL CALIBRATION of Function 5, Recirculation Actuation Signal, including bypass removal functions.	18 months
SR 3.3.5.5	Perform a CHANNEL CALIBRATION of each ESFAS channel, with the exception of Function 5, including bypass removal functions.	24 months
SR 3.3.5.6	Verify ESF RESPONSE TIME is within limits.*	24 months on a STAGGERED TEST BASIS
SR 3.3.5.7	Perform a CHANNEL FUNCTIONAL TEST on each automatic bypass removal channel.	Once within 120 days prior to each reactor startup

\*Verification of the RESPONSE TIME of the 30 subgroup relays identified in the February 18, 1997 Edison letter is not applicable until return to Mode 4 from the Unit 3 Cycle 9 refueling outage, with the additional commitments made in the February 18, 1997 letter. The safety justification for not performing this testing is also included in the February 18, 1997 letter.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 127 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, UNIT 3

DOCKET NO. 50-362

1.0 INTRODUCTION

By application dated February 18, 1997, as supplemented by letter dated February 21, 1997, Southern California Edison Company (SCE or the licensee) requested a change to the Technical Specifications (Appendix A to Facility Operating License No. NPF-15) for San Onofre Nuclear Generating Station, Unit No. 3. The proposed change would defer implementation of Surveillance Requirement 3.3.5.6 of TS 3.3.5, "Engineered Safety Features Actuation System (ESFAS) Instrumentation" for 30 subgroup relays until the next SONGS Unit 3 shutdown, which will be no later than the upcoming Cycle 9 refueling outage (currently scheduled for April 12, 1997).

The February 21, 1997, supplemental letter provided additional clarifying information and did not change the initial no significant hazards consideration determination, which was published in the Federal Register on February 27, 1997 (62 FR 9001).

2.0 BACKGROUND

By letter dated February 16, 1997, SCE requested the NRC exercise discretion not to enforce compliance with the actions required in SR 3.3.5.6 of TS 3.3.5, "Engineered Safety Features Actuation System (ESFAS) Instrumentation," for SONGS Unit 3, regarding performance of response time testing of ESFAS subgroup relays. The letter documented information previously discussed with the NRC in a telephone conversation on February 15, 1997, that began at 12:00 noon Eastern Standard Time (EST). During this telephone conversation, the licensee stated that the 24 hours allowed by SR 3.0.3 would expire at 4:00 pm EST on February 15, 1997, which would require Unit 3 to begin shutting down in accordance with Actions D and E of Limiting Condition for Operation (LCO) 3.3.5. The licensee requested that a Notice of Enforcement Discretion (NOED) be issued pursuant to the NRC's policy regarding exercise of discretion for an

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operating facility, set out in Section VII.c of the "General Statement of Policy and Procedures for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600. The enforcement discretion was requested to be effective for a 7-day period for those subgroup relays that can be safely tested at power, and for the period of time needed for the NRC to process a TS amendment on an exigent basis for the remaining subgroup relays. This TS amendment would defer implementation of SR 3.3.5.6 to no later than the SONGS Unit 3 Cycle 9 refueling outage (currently scheduled to begin on April 12, 1997). The licensee committed, in its letter dated February 16, 1997, to test the subgroup relays in accordance with SR 3.3.5.6 in the event of a planned or unplanned shutdown of Unit 3 before the refueling outage.

The need for this NOED request resulted from a misinterpretation by the licensee of the TS requirements for testing the subgroup relays in the ESFAS circuitry. The licensee used a bounding response time evaluation (which resulted in an assumed relay response time of 0.3 seconds) in lieu of including the subgroup relays in the periodic tests conducted to satisfy the engineered safety features (ESF) response time surveillance requirement (SR 3.3.5.6). This error was discovered by the licensee as a result of the intensive review effort of the TS requirements initiated after an NOED was granted on January 13, 1997. As a result of this effort, the licensee concluded that SR 3.3.5.6 requires the subgroup relays be included in the ESF response time surveillances performed every 24 months on a staggered test basis.

It was not possible to perform this response time test within the 24 hours allowed by SR 3.0.3 for those subgroup relays that can be tested with the unit in Mode 1. Also, there are 30 subgroup relays that cannot be safely tested with the Unit in Mode 1. Therefore, the licensee requested relief from performing the response time testing needed to demonstrate compliance with SR 3.1.5.4 for a period of 7 days for those subgroup relays that can be safely tested on-line, and until no later than the upcoming scheduled refueling outage for those subgroup relays that cannot be safely tested on-line.

The licensee's safety rationale for this request is that the operational history, bounding response time evaluation, margins available in actual ESF response time testing verses TS values, and the other TS surveillances performed on the subgroup relays provide adequate assurance that the relays are operable and fully capable of performing their intended safety function. The enforcement discretion would avoid an undesirable transient associated with an unnecessary plant shutdown and thus minimize potential safety consequences and operational risks associated with such action.

The staff evaluated the safety consequences of allowing Unit 3 to continue operation until its next plant shutdown without full compliance with SR 3.3.5.6 along with other mitigating information that is available, and compared this to the small, but measurable amount of risk associated with an unnecessary plant shutdown. The staff's evaluation of the ability of the subgroup relays to perform their intended safety function is discussed in detail in Section 3.0 of this safety evaluation. The staff concluded that the option that resulted in the minimum safety impact was the licensee's proposed



option of allowing 7 days to perform the required surveillance for the majority of the subgroup relays, and allow the surveillances for the remaining subgroup relays to be postponed until the upcoming refueling outage.

In a letter dated February 19, 1997, the NRC documented its granting of the enforcement discretion for a period of 7 days for the subgroup relays that can be tested at power, and until the issuance of a TS amendment to resolve this issue. The NRC granted this NOED pursuant to the NRC's policy regarding exercise of discretion for an operating facility, set out in Section VII.c of the Enforcement Policy. This TS amendment would defer implementation of SR 3.3.5.6 for the 30 subgroup relays identified in Attachment C to the licensee's February 18, 1997, letter to no later than the SONGS Unit 3 Cycle 9 refueling outage (currently scheduled to begin on April 12, 1997).

### 3.0 EVALUATION

The subgroup relays are Potter & Brumfield Motor Driven Relays. These relays utilize a coil to rotate a shaft which causes the contacts to open and close. Earlier versions of these relays with varnish coils had a history of performance problems. The subgroup relays in the SONGS Units 2 and 3 ESF systems with varnish coils were replaced in the 1989 to 1993 time frame.

The subgroup relays are part of the ESF systems. The safety-related instrumentation and controls of the ESF systems include the ESFAS, which consists of the electrical and mechanical devices and circuitry (from sensors to actuation device input terminals) involved in generating those signals that actuate the required ESF systems, and the arrangement of components that perform protective actions after receiving a signal from either the ESFAS or the operator.

SR 3.3.5.6 states, "Verify ESF RESPONSE TIME is within limits," and the frequency of this SR is every 24 months. The response time of the ESF systems may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. For SONGS Units 2 and 3, the licensee has typically determined the total response time by sequentially adding the response times determined for separate segments of the ESF systems. Response times have been measured during each surveillance from the sensor/transmitter to the subgroup relay and from the subgroup relay until the ESF equipment is capable of performing its safety function. However, instead of being measured during each surveillance, a bounding time response allowance was used for the subgroup relays based on measurements and an engineering evaluation performed by the licensee in 1983. The bounding time was based on testing completed from a large sample of relays tabulated by relay type. Three standard deviations were applied to the average of the relay times and the result was conservatively rounded up to 0.300 seconds.

As a result of the intensive review effort of the TS requirements initiated after an NOED was granted on January 13, 1997, the licensee concluded that SR 3.3.5.6 requires the subgroup relays be included in the ESF response time test surveillances. There are 99 ESF subgroup relays in San Onofre Unit 3 that require response time testing to comply with SR 3.3.5.6. As a result of the

integrated ESF testing, response time data is available for 10 of these subgroup relays, and in its letter dated February 21, 1997, the licensee reported that testing had been completed for all subgroup relays (59 subgroup relays) that can be safely tested while the unit is at power. The remaining 30 relays cannot be response time tested on-line without rendering their associated equipment inoperable and incapable of performing their safety functions. These 30 relays close valves that are required to be open while the plant is operating in systems such as main steam isolation, main feedwater, reactor coolant pump bleedoff, component cooling water noncritical loop, and instrument air.

The staff relied on a several factors to support its decision that these 30 subgroup relays are operable and capable of performing their intended safety function for the limited period of time before the upcoming Unit 3 refueling outage.

The first factor is the recent (February 1997) satisfactory testing of all relevant Unit 2 subgroup relays, and the 59 Unit 3 subgroup relays discussed above. Response time data collected on subgroup relays tested on Unit 2 shows time responses in the range of 0.032 seconds to 0.119 seconds. This testing includes a sample of over 100 relays. Response time data collected on the 59 Unit 3 subgroup relays that can be tested on line shows time response in the range of 0.029 seconds to 0.115 seconds. There were no instances of a relay exceeding the 0.300 second bounding time response. These results provide reliable evidence that the 30 subgroup relays yet to be tested are capable of actuating within the bounding time response allowance of 0.300 seconds.

The second factor is the operating history of these Potter Brumfield subgroup relays. Since the replacement of the subgroup relays in ESF systems with varnish coils in the 1989 to 1993 time frame, there have been no failures of the subgroup relays with the improved design on either San Onofre unit.

The third factor is the available margin for the 30 subgroup relays that are not currently response time tested. Attachment D of the licensee's February 18, 1997, submittal provides response time test data for the ESF trains without including the subgroup relays, and compares these times against the TS maximum allowable response times for the ESF trains. The difference between these two sets of values is the maximum allowable time the subgroup relays have to actuate. For the 30 subgroup relays under consideration in this evaluation, the maximum allowable times range from 1.049 to 37.352 seconds. These times are significantly greater than all the subgroup relay response time tests recently performed by the licensee, and demonstrates the margins available for the 30 untested subgroup relay response times.

The fourth factor is the other TS surveillances performed on these 30 subgroup relays. TS 3.3.5 and TS 3.3.6 contain surveillances that require functional testing of the subgroup relays to verify that the relays properly actuate when required. Although the response time of the subgroup relays is not measured, these TS surveillances do confirm that the subgroup relays are functional.

The combination of the four factors discussed above provides reasonable assurance that the 30 subgroup relays which cannot be safely tested on-line are functional and capable of performing their safety function for the limited period of time before the upcoming Unit 3 refueling outage. Therefore, the staff finds acceptable the licensee's proposal to postpone the response time testing required by SR 3.3.5.6 for these 30 subgroup relays until the next Unit 3 shutdown.

The specific TS change consists of adding a note to SR 3.3.5.6, that states, "Verification of the RESPONSE TIME of the 30 subgroup relays identified in the February 18, 1997 Edison letter is not applicable until return to Mode 4 from the Unit 3 Cycle 9 refueling outage, with the additional commitments made in the February 18, 1997 letter. The safety justification for not performing this testing is also included in the February 18, 1997 letter." As stated in Section 2.0 of this safety evaluation, the February 18, 1997, letter contains the licensee's commitment to test the subgroup relays in accordance with SR 3.3.5.6 in the event of a planned or unplanned shutdown of Unit 3 before the refueling outage. The statement made in the note that verification of the response time for the 30 subgroup relays is not applicable until return to Mode 4 from a shutdown is acceptable since TS 3.3.5 is not applicable to Modes 5 and 6 plant operation.

#### 4.0 EXIGENT CIRCUMSTANCES

The Commission's regulations, 10 CFR 50.91, contain provisions for issuance of amendments when the usual 30-day public notice period cannot be met. One type of special exception is an exigency. An exigency is a case where prompt action is required (before the expiration of a 30-day period comment period).

Under such circumstances, the Commission notifies the public in one of two ways: by issuing a Federal Register notice providing an opportunity for hearing and allowing at least two weeks for prior public comments, or by issuing a press release discussing the proposed changes, using the local media. In this case, the Commission used the first approach.

The exigent circumstances for this TS amendment request exist due to the recent discovery of the inappropriate crediting of a bounding response time evaluation for certain subgroup relays to satisfy SR 3.3.5.6. Processing this TS amendment request on an exigent basis also ends the need for the Notice of Enforcement Discretion issued by the staff on February 19, 1997, described in Section 2.0 of this evaluation.

The NRC staff has reviewed the circumstances surrounding the amendment request and finds that the circumstances could not have been avoided and the licensee made a timely request for the amendment. Therefore, the staff finds that the license amendment may be issued in an exigent manner pursuant to 10 CFR 50.91(a)(6).

There were no public comments in response to the notice published in the Federal Register.

## 5.0 BASIS FOR FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission's regulations in 10 CFR 50.92 state that the Commission may make a final determination that a license amendment involves no significant hazards considerations if operation of the facility in accordance with the amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

1. The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change would defer the implementation of SR 3.3.5.6 of TS 3.3.5 until no later than the upcoming Unit 3 refueling outage. Operation of the facility would remain unchanged as a result of the proposed changes and no assumptions or results of any accident analyses are affected. Based on testing, operating experience, and the other surveillances performed on the subgroup relays, the staff concludes the 30 untested subgroup relays identified in Attachment C of the licensee's February 18, 1997, letter have demonstrated their capability to perform their specified safety function and are considered operable for the limited period of time until the next Unit 3 shutdown. Therefore, the proposed change will not involve a significant increase in the probability or consequences of any accident previously evaluated.

2. The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed change would defer the implementation of SR 3.3.5.6 of TS 3.3.5 until no later than the upcoming Unit 3 refueling outage. Operation of the facility would remain unchanged as a result of the proposed change. The subgroup relays cannot initiate an accident. Therefore, the proposed change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed change does not involve a significant reduction in a margin of safety.

The proposed change would defer the implementation of SR 3.3.5.6 of TS 3.3.5 until no later than the upcoming Unit 3 refueling outage. Based on testing, operating experience, and the other surveillances performed on the subgroup relays, the staff concludes the 30 untested subgroup relays identified in Attachment C of the licensee's February 18, 1997, letter have demonstrated their capability to perform their specified safety function and are considered operable for the limited period of time until the next Unit 3 shutdown. Therefore, the proposed change will not involve a significant reduction in a margin of safety.

Based upon the above considerations, the staff concludes that the amendment meets the three criteria of 10 CFR 50.92. Therefore, the staff has made a final determination that the proposed amendment does not involve a significant hazards consideration.

#### 6.0 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.

#### 7.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a surveillance requirement. 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 (62 FR 9001). Accordingly, the amendment meets 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 amendment.

#### 8.0 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.

Principal Contributor: M. Fields, PDIV-2/NRR

Date: March 17, 1997