

April 9, 1999

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

SUBJECT: ISSUANCE OF AMENDMENTS FOR SAN ONOFRE NUCLEAR GENERATING STATION, UNIT NO. 2 (TAC NO. MA0238) AND UNIT NO. 3 (TAC NO. MA0239)

Dear Mr. Ray:

The Commission has issued the enclosed Amendment No. 151 to Facility Operating License No. NPF-10 and Amendment No. 143 to Facility Operating License No. NPF-15 for San Onofre Nuclear Generating Station, Unit Nos. 2 and 3. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated January 24, 1997.

These amendments revise Surveillance Requirement 3.8.1.9 to Technical Specification 3.8.1, "AC Sources--Operating," to more accurately reflect test conditions and plant design requirements.

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
L. Raghaven, Project Manager, Section 2
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-361
and 50-362

Enclosures: 1. Amendment No. 151 to NPF-10
2. Amendment No. 143 to NPF-15
3. Safety Evaluation

cc w/encls: See next page

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Mr. Harold B. Ray

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April 9, 1999

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. 50-361

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 151
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 January 24, 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-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. 151, 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 30 days of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Stephen Dembek, Chief, Section 2
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: April 9, 1999

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 151 TO FACILITY OPERATING LICENSE NO. NPF-10

DOCKET NO. 50-361

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

INSERT

3.8-8

3.8-8

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.9 -----NOTE----- Credit may be taken for unplanned events that satisfy this SR. -----</p> <p>Verify each DG rejects a load greater than or equal to its associated single largest post-accident load, and:</p> <ul style="list-style-type: none"> a. Following load rejection, the frequency is ≤ 66.75 Hz; b. Within 4 seconds following load rejection, the voltage is ≥ 4297 V and ≤ 4576 V; and c. Within 4 seconds following load rejection, the frequency is ≥ 59.7 Hz and ≤ 61.2 Hz. 	<p>24 months</p>
<p>SR 3.8.1.10 -----NOTE----- Credit may be taken for unplanned events that satisfy this SR. -----</p> <p>Verify each DG, when operating with design basis kW loading and maximum kVAR loading permitted during testing, does not trip and voltage is maintained ≤ 5450 V during and following a load rejection of ≥ 4450 kW and ≤ 4700 kW.</p>	<p>24 months</p>

(continued)



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. 143
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 January 24, 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.

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. 143 , 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 30 days of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Stephen Dembek, Chief, Section 2
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: April 9, 1999

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 143 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

INSERT

3.8-8

3.8-8

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.9 -----NOTE----- Credit may be taken for unplanned events that satisfy this SR. -----</p> <p>Verify each DG rejects a load greater than or equal to its associated single largest post-accident load, and:</p> <ul style="list-style-type: none"> a. Following load rejection, the frequency is ≤ 66.75 Hz; b. Within 4 seconds following load rejection, the voltage is ≥ 4297 V and ≤ 4576 V; and c. Within 4 seconds following load rejection, the frequency is ≥ 59.7 Hz and ≤ 61.2 Hz. 	<p>24 months</p>
<p>SR 3.8.1.10 -----NOTE----- Credit may be taken for unplanned events that satisfy this SR. -----</p> <p>Verify each DG, when operating with design basis kW loading and maximum kVAR loading permitted during testing, does not trip and voltage is maintained ≤ 5450 V during and following a load rejection of ≥ 4450 kW and ≤ 4700 kW.</p>	<p>24 months</p>

(continued)



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 151 TO FACILITY OPERATING LICENSE NO. NPF-10
AND AMENDMENT NO. 143 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 January 24, 1997, Southern California Edison Company, et al. (SCE or the licensee) requested changes to the Technical Specifications (Appendix A to Facility Operating License Nos. NPF-10 and NPF-15) for the San Onofre Nuclear Generating Station, Unit Nos. 2 and 3. The proposed changes would revise Surveillance Requirement 3.8.1.9 to Technical Specification 3.8.1, "AC Sources--Operating". This would provide more limiting emergency diesel generator (EDG) voltage and frequency limits for recovery from the transient caused by the single largest post-accident load rejection test. The voltage and frequency limits are made tighter, to accurately reflect plant design requirements.

2.0 EVALUATION

Surveillance Requirement 3.8.1.9 (SR) currently requires that the licensee:

Verify each EDG, when operating with design basis kW loading and maximum kVAR loading permitted during testing, rejects a load ≥ 682 kW, and:

- a. Following load rejection, the frequency is ≤ 66.75 Hz;
- b. Within 4 seconds following load rejection, the voltage is ≥ 3924 V and ≤ 4796 V; and
- c. Within 4 seconds following load rejection, the frequency is ≥ 58.8 Hz and ≤ 61.2 Hz.

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The licensee has proposed to revise SR 3.8.1.9 as follows:

Verify each EDG rejects a load greater than or equal to its associated single largest post-accident load, and:

- a. Following load rejection, the frequency is ≤ 66.75 Hz;
- b. Within 4 seconds following load rejection, the Voltage is ≥ 4297 V and ≤ 4576 V;
and
- c. Within 4 seconds following load rejection, the frequency is ≥ 59.7 Hz and ≤ 61.2 Hz.

The proposed technical specification change provides more limiting voltage and frequency limits for recovery from the transient caused by the single largest post-accident load rejection test. The voltage and frequency limits are made tighter, to accurately reflect the assumptions made in the San Onofre accident analysis. The lower voltage is changed to 4297 V because this is the voltage that the EDG must achieve to reset the 4.16 kV engineered safety features (ESF) bus undervoltage relays to allow ESF load sequencing to proceed. Undervoltage relay reset is a permissive that must be satisfied to initiate load sequencing.

The upper limit is changed to 4576 V to be consistent with the maximum allowable steady state voltage for 4.16 kV motors (110 percent of 4160 V). The previous voltage limits were based on EDG run conditions of $4360 \text{ V} \pm 10$ percent.

The lower frequency limit is changed from 58.8 Hz to 59.7 Hz. The lower frequency limit is equal to -0.5 percent of the 60 Hz nominal frequency and based on maintaining acceptable high pressure safety injection system performance as assumed in the accident analyses.

In order to ensure that the EDG is tested under load conditions that are as close to design basis conditions as possible, testing is performed by rejecting an inductive load with kW and kVAR greater than or equal to the single largest post-accident load (683 kW, 369 kVAR). These test conditions are consistent with the power factor requirements of Regulatory Guide 1.9, Rev. 3, "Selection, Design, and Qualification of Diesel-Generator Units Used as Standby (Onsite) Electric Power Systems at Nuclear Power Plants."

The staff concludes that the proposed voltage and frequency specified for recovery from the transient caused by the single largest post-accident load rejection are conservative in that the voltage and frequency limits are made tighter to ensure: (1) the limits are consistent with the design range of the equipment powered by the EDG, and (2) the EDG continues to function as assumed in the San Onofre accident analysis. Further, rejection of an inductive load of with kW and kVAR greater than or equal to 683 kW and 369 kVAR make the test conditions consistent with the power factor requirements of Regulatory Guide 1.9, Rev. 3. Therefore, the proposed change is acceptable.

3.0 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.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change 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 (63 FR 6997). 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.

5.0 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: O. Chopra, EELB

Date: April 9, 1999