

January 9, 1985

Docket Nos. 50-361 and 50-362

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Gentlemen:

Subject: Issuance of Amendment No. 29 to Facility Operating License NPF-10  
and Amendment No. 18 to Facility Operating License NPF-15  
San Onofre Nuclear Generating Station, Units 2 and 3

The Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 29 to Facility Operating License No. NPF-10 and Amendment No. 18 to Facility Operating License No. NPF-15 for the San Onofre Nuclear Generating Station, Units 2 and 3, located in San Diego County, California. The amendments modify the Technical Specification 3/4.3.2 concerning control room toxic gas isolation system setpoints.

These amendments were requested by your letters of April 6 and 27 and September 11, 1984, and are covered by proposed changes numbered 135.

A copy of the Safety Evaluation supporting the amendments is also enclosed.

Sincerely,

George W. Knighton, Chief  
Licensing Branch No. 3  
Division of Licensing

Enclosures:

- 1. Amendment No. 29 to NPF-10
- 2. Amendment No. 18 to NPF-15
- 3. Safety Evaluation

cc w/enclosures: See next page

*DL*  
DL:LB#3  
JLee/yt  
12/21/84

*HR*  
L:LB#3  
Rood  
2/21/84

*W. Knighton*  
OELD  
Chandler  
12/21/84

*W. Knighton*  
DL:LB#3  
G.W. Knighton  
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*TM Novak*  
DL:LB#L  
TM Novak  
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Siting Division  
Energy Resources Conservation &  
Development Commission  
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Sacramento, CA 95825

Mayor, City of San Clemente  
San Clemente, CA 92672

Chairman, Board Supervisors  
San Diego County  
San Diego, CA 92412

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

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. 29  
License No. NPF-10

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The applications for amendment to the license for San Onofre Nuclear Generating Station, Unit 2 (the facility) filed by the Southern California Edison Company on behalf of itself and San Diego Gas and Electric Company, The City of Riverside and The City of Anaheim, California (licensees) dated April 6 and 27 and September 11, 1984, comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the applications, as amended, the provisions of the Act, and the 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 set forth in 10 CFR Chapter I;
  - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;

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- 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. 29, are hereby incorporated in the license. SCE shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



George W. Knighton, Chief  
Licensing Branch No. 3  
Division of Licensing

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: January 9, 1985

- 3 -

ATTACHMENT TO LICENSE AMENDMENT NO. 29

FACILITY OPERATING LICENSE NO. NPF-10

DOCKET NO. 50-361

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change. Also to be replaced are the following overleaf pages to the amended pages.

Amendment Pages

3/4 3-24

Overleaf Pages

3/4 3-23

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP VALUES

<u>FUNCTIONAL UNIT</u>	<u>TRIP VALUE</u>	<u>ALLOWABLE VALUES</u>
6. CONTAINMENT COOLING (CCAS)		
a. Manual CCAS (Trip Buttons)	Not Applicable	Not Applicable
b. Manual SIAS (Trip Buttons)	Not Applicable	Not Applicable
c. Automatic Actuation Logic	Not Applicable	Not Applicable
7. LOSS OF POWER (LOV)		
a. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage and Degraded Voltage)	See Fig. 3.3-1 (4)	See Fig. 3.3-1 (A)
8. EMERGENCY FEEDWATER (EFAS)		
a. Manual (Trip Buttons)	Not Applicable	Not Applicable
b. Steam Generator (A&B) Level-Low	$\geq 25\%$ (3)	$\geq 24.23\%$ (3)
c. Steam Generator $\Delta P$ -High (SG-A > SG-B)	$\leq 50$ psi	$\leq 66.25$ psi
d. Steam Generator $\Delta P$ -High (SG-B > SG-A)	$\leq 50$ psi	$\leq 66.25$ psi
e. Steam Generator (A&B) Pressure - Low	$\geq 729$ psia (2)	$\geq 711$ psia (2)
f. Automatic Actuation Logic	Not Applicable	Not Applicable

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP VALUES

<u>FUNCTIONAL UNIT</u>	<u>TRIP VALUE</u>	<u>ALLOWABLE VALUES</u>
9. CONTROL ROOM ISOLATION (CRIS)		
a. Manual CRIS (Trip Buttons)	Not Applicable	Not Applicable
b. Manual SIAS (Trip Buttons)	Not Applicable	Not Applicable
c. Airborne Radiation		
i. Particulate/Iodine	$\leq 5.7 \times 10^4$ cpm**	$\leq 6.0 \times 10^4$ cpm**
ii. Gaseous	$\leq 3.8 \times 10^2$ cpm**	$\leq 4.0 \times 10^2$ cpm**
d. Automatic Actuation Logic	Not Applicable	Not Applicable
10. TOXIC GAS ISOLATION (TGIS)		
a. Manual (Trip Buttons)	Not Applicable	Not Applicable
b. Chlorine - High	$\leq 14.3$ ppm	$\leq 15.0$ ppm
c. Ammonia - High	$\leq 97$ ppm	$\leq 100$ ppm
d. Butane/Propane - High	$\leq 193$ ppm	$\leq 200$ ppm
e. Automatic Actuation Logic	Not Applicable	Not Applicable



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

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. 18  
License No. NPF-15

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The applications for amendment to the license for San Onofre Nuclear Generating Station, Unit 3 (the facility) filed by the Southern California Edison Company on behalf of itself and San Diego Gas and Electric Company, The City of Riverside and The City of Anaheim, California (licensees) dated April 6 and 27 and September 11, 1984, comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the applications, as amended, the provisions of the Act, and the 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 set forth in 10 CFR Chapter I;
  - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;

- 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. 18, are hereby incorporated in the license. SCE shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



George W. Knighton, Chief  
Licensing Branch No. 3  
Division of Licensing

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: January 9, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 18

FACILITY OPERATING LICENSE NO. NPF-15

DOCKET NO. 50-362

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change. Also to be replaced are the following overleaf pages to the amended pages.

Amendment Pages

3/4 3-24

Overleaf Pages

3/4 3-23

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP VALUES

<u>FUNCTIONAL UNIT</u>	<u>TRIP VALUE</u>	<u>ALLOWABLE VALUES</u>
6. CONTAINMENT COOLING (CCAS)		
a. Manual CCAS (Trip Buttons)	Not Applicable	Not Applicable
b. Manual SIAS (Trip Buttons)	Not Applicable	Not Applicable
c. Automatic Actuation Logic	Not Applicable	Not Applicable
7. LOSS OF POWER (LOV)		
a. 4.16 kV Emergency Bus Undervoltage (Loss of Voltage and Degraded Voltage)	See Fig. 3.3-1 (4)	See Fig. 3.3-1 (4)
8. EMERGENCY FEEDWATER (EFAS)		
a. Manual (Trip Buttons)	Not Applicable	Not Applicable
b. Steam Generator (A&B) Level-Low	$\geq 25\%$ (3)	$\geq 24.23\%$ (3)
c. Steam Generator $\Delta P$ -High (SG-A > SG-B)	$\leq 50$ psi	$\leq 66.25$ psi
d. Steam Generator $\Delta P$ -High (SG-B > SG-A)	$\leq 50$ psi	$\leq 66.25$ psi
e. Steam Generator (A&B) Pressure - Low	$\geq 729$ psia (2)	$\geq 711$ psia (2)
f. Automatic Actuation Logic	Not Applicable	Not Applicable

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP VALUES

<u>FUNCTIONAL UNIT</u>	<u>TRIP VALUE</u>	<u>ALLOWABLE VALUES</u>
9. CONTROL ROOM ISOLATION (CRIS)		
a. Manual CRIS (Trip Buttons)	Not Applicable	Not Applicable
b. Manual SIAS (Trip Buttons)	Not Applicable	Not Applicable
c. Airborne Radiation		
i. Particulate/Iodine	$\leq 5.7 \times 10^4$ cpm**	$\leq 6.0 \times 10^4$ cpm**
ii. Gaseous	$\leq 3.8 \times 10^2$ cpm**	$\leq 4.0 \times 10^2$ cpm**
d. Automatic Actuation Logic	Not Applicable	Not Applicable
10. TOXIC GAS ISOLATION (TGIS)		
a. Manual (Trip Buttons)	Not Applicable	Not Applicable
b. Chlorine - High	$\leq 14.3$ ppm	$\leq 15.0$ ppm
c. Ammonia - High	$\leq 97$ ppm	$\leq 100$ ppm
d. Butane/Propane - High	$\leq 193$ ppm	$\leq 200$ ppm
e. Automatic Actuation Logic	Not Applicable	Not Applicable



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

SAFETY EVALUATION

AMENDMENT NO. 29 TO NPF-10

AMENDMENT NO. 18 TO NPF-15

SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 & 3

DOCKET NOS. 50-361 AND 50-362

Introduction

Southern California Edison Company (SCE), on behalf of itself and the other licensees, San Diego Gas and Electric Company, the City of Riverside, California, and The City of Anaheim, California has submitted several applications for license amendments for San Onofre Nuclear Generating Station, Units 2 and 3.

One such request, Proposed Change Number 135, or PCN-135, dated April 27, 1984, involves the control room toxic gas isolation system setpoints. Specifically, Technical Specification 3/4.3.2 requires that the engineered safety features actuation system (ESFAS) instrumentation channels be operable, and defines a number of functional tests and response time tests that must be periodically conducted in order to assure operability. Table 3.3-4 of this technical specification defines the ESFAS instrumentation trip values for the toxic gas isolation system (TGIS). The TGIS is actuated by greater than allowable concentration of toxic gas (i.e., chlorine, ammonia, butane/propane, or carbon dioxide) in the normal control room air supply duct. Upon receipt of a TGIS signal, the control room heating, ventilation, and air conditioning (HVAC) system is automatically isolated. The FSAR analysis indicates that adequate protection for the control room operators will be provided if the toxic gas concentration in the control room during the first two (2) minutes after the detector responds is less than the protective action limit for toxic gas concentration. The proposed change would make the following revisions to Table 3.3-4:

- (1) The allowable values for chlorine concentration would be increased from less than or equal to 6.2 ppm to less than or equal to 15.0 ppm. With an allowable value for chlorine limited to less than or equal to 15.0 ppm, the high chlorine trip value would be increased from less than or equal to 6.0 ppm to less than or equal to 14.3 ppm.
- (2) The allowable values for ammonia concentration would be increased from less than or equal to 44.7 ppm to less than or equal to 100 ppm. With an allowable value for ammonia limited to less than or equal to 100 ppm, the high ammonia trip value would be increased from less than or equal to 42.4 ppm to less than or equal to 97 ppm.

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- (3) The allowable values for butane/propane concentration would be increased from less than or equal to 89.3 ppm to less than or equal to 200 ppm. With an allowable value for butane/propane limited to less than or equal to 200 ppm, the high butane/propane trip value would be increased from less than or equal to 84.8 ppm to less than or equal to 193 ppm.
- (4) The allowable value for carbon dioxide concentration would be deleted (the present value is less than or equal to 4275.0 ppm). Therefore the high carbon dioxide trip value would also be deleted (the present value is less than or equal to 4061.3 ppm).

### Evaluation

The staff has reviewed the proposed changes to Technical Specification 3/4.3.2, Table 3.3-4. Based on a review in accordance with the guidelines of Regulatory Guide 1.78 and Standard Review Plan (SRP) Sections 2.2.3 and 6.4, the staff concludes that these changes meet the requirements of General Design Criterion 19 of 10 CFR Part 50, Appendix A, and are acceptable.

The licensees' evaluation addresses the extent to which the toxic gas monitor setpoints could be raised or deleted and still provide adequate protection for the control room operators. The toxic gases considered are chlorine, ammonia, propane, butane and carbon dioxide. The proposed change revises the set point from 6.0 ppm to 14.3 ppm for chlorine, 42.4 ppm to 97 ppm for ammonia, and 84.8 ppm to 193 ppm for butane/propane. The proposed change deletes the requirement to actuate the TGIS on carbon dioxide. These modifications will help reduce the number of spurious TGIS actuations currently being experienced at San Onofre Units 2 and 3.

Increasing the setpoint to the proposed values for chlorine and ammonia could lead to a control room concentration exceeding the long term exposure limits defined in SRP 6.4 without an alarm or other safety systems actuation. This could be possible in the event of a maximum concentration-duration type accident identified in Regulatory Guide 1.78. However, because the odor threshold values for chlorine and ammonia are lower than the long term exposure limits, the control room operators with proper training can be expected to take effective safety measures. SCE, in response to a staff request, has committed (by letter dated November 9, 1984) to implement a procedural requirement to manually actuate the TGIS in the event that an airborne irritant is detected by the control room staff.

For a maximum concentration accident, independent assessments by the licensees and staff indicate that the control room operators would have at least two minutes (the value recommended in Regulatory Guide 1.78 and SRP 6.4) following an alarm to don self-contained breathing apparatus before the concentration reaches protective action levels for ammonia and chlorine.

In the assessment of the time-dependent toxic gas concentration at the control room air intake for carbon dioxide, there is about a two minute period in which the concentrations resulting from a maximum release accident exceed the toxic limit. However, as soon as the "puff" passes, this concentration drops below

the toxic limit. In the event of a maximum concentration-duration type accident, the concentration exceeds the long term exposure limit but not for more than an hour. On this basis the staff concurs with the licensees that protection of the control room operator from a postulated carbon dioxide release on-site is not required.

For hydrocarbons, i.e., butane and propane, the detector setpoint is low enough that an accident involving a release of these chemicals would not pose a problem for the operators. This conclusion is based upon independent assessments by both the licensees and staff.

Based on the submittal and the implementation of the licensees' commitment to institute procedures requiring control room isolation following detection of an airborne irritant by the control room operators, the staff concludes that proposed change PCN-135 meets the guidelines of Regulatory Guide 1.78, SRPs 2.2.3 and 6.4, and 10 CFR Part 50, Appendix A, General Design Criterion 19, and is, therefore, acceptable.

#### Contact With State Official

The NRC staff has advised the Chief of the Radiological Health Branch, State Department of Health Services, State of California, of the proposed determinations of no significant hazards consideration. No comments were received.

#### Environmental Consideration

These amendments involve changes in the installation or use of facility components located within the restricted area. The staff has determined that the amendments involve no significant increase in the amounts of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupation radiation exposure. The Commission has previously issued proposed findings that the amendments involve no significant hazards consideration, and there has been no public comment on such findings. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR Sec. 51.21(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need to be prepared in connection with the issuance of these amendments.

#### Conclusion

Based upon our evaluation of the proposed changes to the San Onofre Units 2 and 3 Technical Specifications, we have concluded that: there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public. We, therefore, conclude that the proposed changes are acceptable.

Dated: January 9, 1985

January 9, 1985

ISSUANCE OF AMENDMENT NO. 29 TO FACILITY OPERATING LICENSE NPF-10  
AND AMENDMENT NO. 18 TO FACILITY OPERATING LICENSE NPF-15  
SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3

DISTRIBUTION

Docket File 50-361/362

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PRC System

NSIC

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