



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

SOUTHERN CALIFORNIA EDISON COMPANY AND

SAN DIEGO GAS AND ELECTRIC COMPANY

DOCKET NO. 50-206

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 1

AMENDMENT TO PROVISIONAL OPERATING LICENSE

Amendment No. 41  
License No. DPR-13

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Southern California Edison Company and San Diego Gas and Electric Company (the licensees) dated May 4, 1979, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and 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 3.B of Facility Operating License No. DPR-13 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 41, are hereby incorporated in the license. Southern California Edison Company shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION



Dennis L. Ziemann, Chief  
Operating Reactors Branch #2  
Division of Operating Reactors

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: June 18, 1979

ATTACHMENT TO LICENSE AMENDMENT NO. 41

PROVISIONAL OPERATING LICENSE NO. DPR-13

DOCKET NO. 50-206

Revise Appendix B Technical Specifications by removing the following pages and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain vertical lines indicating the area of change.

PAGES

2-6

2-7

5-20

Added Process ChemicalsObjective

The purpose of this specification is to limit discharges of Chromium, Boron, Phosphate, and Sulfate to the ocean environment.

Specification

The annual (calendar year) discharge of chemicals to the circulating water system shall not exceed the following limits without prior approval from the NRC.

Chromium:	1,000 lbs of $K_2CrO_4$
Boric Acid:	170,000 lbs of $H_3BO_3$
	$NaH_2PO_4$
Phosphate:	5,400 lbs of $Na_2HPO_4$
	$Na_3PO_4$
Sulfate:	Calendar Year 1979 - 1,785,000 lbs. of $H_2SO_4$
	Calendar Year 1980 - 2,350,000 lbs. of $H_2SO_4$
	Calendar Years
	Beginning 1981 - 90,000 lbs. of $H_2SO_4$

Monitoring Requirements

Inventory records of the usage of Chromium, Boron, Phosphate, and Sulfate shall be maintained to provide a record of the usage of these chemicals.

Bases

Chromium is utilized in the component cooling water and turbine plant cooling water systems in the form of potassium chromate. Loss from the systems is through leakage only. Complete or partial draining of this system utilizes temporary retention tanks and does not result in direct release to the environment. The limit established by the Specification provides for control of normal leakage and ensures system draining is not made to the environment.

Boron is utilized in the reactor coolant system as a neutron absorber. During normal operations and plant shutdown with cooldown the concentration of boron is varied as one means of controlling reactivity. This results in reactor water entering the radioactive waste system from where it is eventually released to the ocean environment. The resulting maximum added concentration at the discharge of .75 ppm has not created an observed environmental impact. The Specification provides assurance that releases of Boron will not exceed those which have not impacted the environment in the past.

Phosphates in the form of mono-, di-, and tri-sodium phosphate are added to the steam generators as a means of controlling tube corrosion and deposit formation. Steam generator blow-down is released at a continuous rate of up to 25 gpm. The resulting added concentration of .075 ppm at the discharge has not created an observed environmental impact. The Specification provides assurance that releases of phosphates will not exceed those which have not impacted the environment in the past.

Sulfates in the form of sulfuric acid are added to the San Onofre Unit 1 flash evaporator to assist in corrosion control by maintaining pH less than 7.5. The resulting maximum added concentration at the discharge, .073 ppm, has not created an observed environmental impact. In addition, sulfuric acid is used in the regeneration of San Onofre Units 2 and 3 makeup demineralizers. Until the San Onofre Units 2 and 3 circulating water system is placed in service, neutralized regenerants with a final solution pH of 6.0 to 9.0 and a maximum added concentration at the discharge of 16 ppm, obtained during the cleaning, flushing and startup of San Onofre Units 2 and 3 systems, are temporarily discharged directly to the San Onofre Unit 1 circulating water outfall tsunami structure. Neutralized sulfuric acid (pH 6.0 to 9.0) has no deleterious effects on the ocean environment. In the remainder of the 1979 calendar year, 1,695,000 pounds of the total discharge limit of 1,785,000 pounds of  $H_2SO_4$  is discharged from San Onofre Units 2 and 3. For the 1980 calendar year, 2,260,000 pounds of the total discharge limit of 2,350,000 pounds of  $H_2SO_4$  is discharged from San Onofre Units 2 and 3. When the San Onofre Units 2 and 3 circulating water system is placed in service, the discharge of sulfates in the form of sulfuric acid will be limited to that added to the San Onofre Unit 1 flash evaporator (i.e., 90,000 pounds). The specification provides assurance that releases of sulfate will not exceed those which have not impacted the environment in the past.

### 2.3

#### Radioactive Discharge

Limits and conditions for the controlled release of radioactive liquids and gases shall be as specified in Appendix A, Technical Specifications.

TABLE 5.8-1. (Cont'd)

Chemical or Element	Maximum Added Release (lb/day)	Maximum Added Concentration (ppm) at discharge	Use and Frequency of Discharge
Potassium	1,090	0.26	Included in 120 gpm continuous brine discharge from flash evaporator.*
Sodium	30,200	7.2	Included in 120 gpm continuous brine discharge from flash evaporator.*
Sulfate	7,925 **	1.89 **	Included in 120 gpm continuous brine discharge from flash evaporator* and includes addition of sulfuric acid used.
Sulfide	0.29	0.001	Included in 120 gpm continuous brine discharge from flash evaporator.*

\* This discharge represents concentrated ocean water resulting from a flash evaporation process, thus only concentrating constituents already present in the sea water. This process provides the fresh water supply for the Station.

\*\* During the calendar years 1979 and 1980, the maximum added release (lb/day) and the maximum added concentration (ppm) at discharge is 14,250 and 17.9, respectively, from San Onofre Units 2 and 3 as described in Technical Specification 2.2.2.