



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. 36  
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 March 31, 1978, (Proposed Change No. 70) 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.
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 License No. DPR-13 is hereby amended to read as follows:

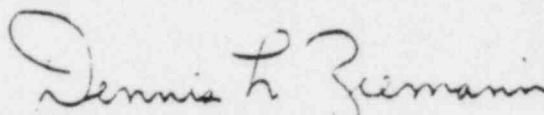
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(B) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 36, are hereby incorporated in the license. The licensee 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: September 25, 1978

ATTACHMENT TO LICENSE AMENDMENT NO. 36

PROVISIONAL OPERATING LICENSE NO. DPR-13

DOCKET NO. 50-206

Revise Appendix A Technical Specifications and Bases 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 areas of change.

<u>REMOVE</u>	<u>INSERT</u>
38	38
--	38a
--	38b
43b	43b

### 3.8 Fuel Loading and Refueling

Applicability: Applies to fuel loading and refueling operations.

Objective: To prevent incidents during fuel handling operations that could affect public health and safety.

Specification: A. During refueling operations:

1. Radiation levels in the containment and spent fuel building shall be monitored.
2. Core subcritical neutron flux shall be continuously monitored during the entire refueling period by not less than two neutron monitors, each with continuous visual indication and one with continuous audible indication.
3. One residual heat removal pump shall be in operation.
4. During reactor vessel head removal and while loading and unloading fuel from the reactor, a minimum boron concentration of 2900 ppm shall be maintained in the primary coolant system.
5. The reactor shall be subcritical for at least 148 hours prior to movement of irradiated fuel in the reactor pressure vessel.
6. Water borated as specified in item A.4 above shall be maintained at an elevation not less than 40'3" in the refueling pool during movement of fuel assemblies and RCC's. Reference elevation is sea level, mean lower low water.
7. If any of the specified limiting conditions for refueling is not met, refueling of the reactor shall cease, work shall be initiated to correct the violated conditions so that the specified limits are met, and no operations which may increase the reactivity of the core shall be made.

B. With fuel assemblies in the spent fuel storage pool:

1. Loads in excess of 1,500 pounds shall be prohibited from travel over fuel assemblies in the storage pool.

2. Water borated as specified in item A.4 above shall be maintained at an elevation not less than 40'3" in the spent fuel storage pool. Reference elevation is sea level, mean lower low water.
3. With the requirement of B.2 above not satisfied, suspend all movement of fuel assemblies and crane operations with loads in the fuel storage areas and restore the water level to within its limits within four hours.

Basis:

During refueling the reactor refueling cavity is filled with approximately 240,000 gallons of borated water of 2,900 ppm boron concentration. This boron concentration is sufficient to maintain the reactor subcritical approximately by 10%  $\Delta k/k$  with all rods inserted, and will also maintain the core subcritical even if no control rods were inserted into the reactor. (1) Operation of the residual heat removal pump is provided to assure continuous mixing flow of refueling water through the reactor vessel during the refueling period. (2) Borated water injection capability is provided as per Specification 3.2 Part A in the unlikely event there is any need during the refueling period.

In addition to the above safeguards interlocks are utilized during refueling to insure safe handling. (3) These include:

- (1) An interlock on the lifting hoist to prevent lifting of more than one fuel assembly at any one time.
- (2) The spent fuel transfer mechanism can accommodate only one fuel assembly at a time.

The restriction on movement of loads in excess of 1,500 pounds (i.e., the nominal weight of a fuel assembly, RCC, and associated handling tool) over fuel assemblies in the storage

pool ensures that in the event this load is dropped 1) the activity release will be limited to that contained in a single fuel assembly, and 2) any possible distortion of fuel in the storage racks will not result in a critical array. This assumption is consistent with the activity release assumed in the accident analysis.

Requiring a minimum water elevation of 40'3" in the refueling pool, and similarly in the spent fuel storage pool, ensures that (1) at least 23 feet of water would be available to remove 99% of the iodine gas activity assumed to be release in the event of a dropped and damaged fuel assembly, and (2) there will be at least twelve feet of water above the top of the fuel rods of a withdrawn fuel assembly so as to limit dose rates at the top of the water in accordance with Section 4.2.6 of the facility FSA. Reference elevation is sea level, mean lower low water.

Finally, detailed written procedures are provided, and are carried out under close supervision by licensed personnel.

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor pressure vessel assures that sufficient time has elapsed to allow the radioactive decay of short-lived fission products.

References:

- (1) Final Safety Analysis, Paragraph 2.4.
- (2) Supplement No. 1 to Final Engineering Report and Safety Analysis, Section 5, Question 8 and 9.
- (3) Final Safety Analysis, Paragraph 2.9.

	Check	Frequency
6. Main Steam Safety Valves	a. Pressure Setpoint	At each refueling shutdown
7. Main Steam Power Operated Relief Valves	a. Test for Operability	At each refueling shutdown
8. Trisodium Phosphate Additive	a. Check for system availability, as delineated in Technical Specification 4.2	At each refueling shutdown
9. Hydrazine Tank Water Samples	a. Hydrazine concentration	Once every six months when the reactor is critical and prior to return of criticality when a period of subcriticality extends the test interval beyond six months
10. Transfer Switch No. 7	a. Verify that the fuse block for breaker 8-1181 to MCC 1 is removed	Monthly, when the reactor is critical and prior to returning reactor to critical when period of sub-criticality extended the test interval beyond one month.
MOV/LCV-1100 C Transfer Switch	a. Verify that the fuse block for either breaker 8-1198 to MCC 1 or breaker 42-12A76 to MCC 2A is removed	Same as Item 10 above.
12. Emergency Siren Transfer Switch	a. Verify that the fuse block for either breaker 8-1145 to MCC 1 or breaker 8-1293A to MCC 2 is removed	Same as Item 10 above.
13. Communication Power Panel Transfer Switch	a. Verify that the fuse block for either breaker 8-1195 to MCC 1 or breaker 8-1293B to MCC 2 is removed	Same as Item 10 above.
14.a. Spent fuel pool water level	Verify water level per Technical Specification 3.8.	a. Once every seven days when spent fuel is being stored in the pool.
b. Refueling pool water level.		b. Within two hours prior to start of and at least once per 24 hours thereafter during movement of fuel assemblies or RCC's.

Until the specific activity of the reactor coolant system is restored within its limits.

Sample to be taken after a minimum of 2 EFPD and 20 days of POWER OPERATION have elapsed since reactor was last subcritical for 48 hours or longer.