



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

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

DOCKET NO. 50-206

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT NO. 1

AMENDMENT TO PROVISIONAL OPERATING LICENSE

Amendment No. 104
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 licensee) dated June 22, 1988, as supplemented July 15, 19, 21, and 22, 1988 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 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 the addition of the following new paragraph 3.L:

3.L Diesel Generators

The licensee's request dated June 22, 1988, as supplemented July 15, 19, 21, and 22, 1988, to raise the rating of the diesel generators from 4500 KW ($\pm 5\%$) to 5250 KW ($\pm 5\%$) until the next refueling outage is approved, subject to the following:

- (1) Main journals no. 8 and 9 on diesel-generator no. 1, and main journals no. 9 and 10 on diesel-generator no. 2 are to be inspected prior to plant operation and found to be free of cracks.
- (2) Journals no. 8 through 12 on both diesel-generator units are to be inspected at the next refueling outage and each subsequent refueling outage until the issue of crankshaft cracking has been resolved.
- (3) All piston skirts are to be replaced with type AE at the next refueling outage.
- (4) All diesel starts for testing and surveillance will be slow starts (greater than 24 seconds duration) except for the fast start required by Technical Specification 4.4.F conducted once per 18 months during shutdown and any other fast start required following specific maintenance involving the fast start capability.
- (5) The licensee will conduct confirmatory load tests of the major loads on the diesel generators buses to confirm the accuracy of the calculated loads contained in its letter of July 15, 1988, and report the results to the NRC staff.
- (6) Within 60 days the licensee will evaluate the existing motors and try to provide a certification of the charging pump motors to at least 700 horsepower with a service factor of 1.15. If the evaluation is unsuccessful, SCE will provide motors with NEMA rating of 800 horsepower by either rewinding the existing motors or replacing the motors. In the event rewinding or replacement is required, every effort will be made to accomplish this during the upcoming Cycle X refueling outage; however, if this is not possible, at least 60 days prior to the end of that outage SCE will provide for NRC approval the schedule for rewinding or replacement and further justification for plant operation beyond that outage.

The license is also amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3B of Provisional Operating License No. DPR-13 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as advised through Amendment No. 104, are hereby incorporated in the license. Southern California Edison Company shall operate the facility in accordance with the Technical Specifications, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of the date of its issuance and must be fully implemented no later than 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Gary M. Molahan, Assistant Director
for Regions III and V
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 22, 1988

July 22, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 104

PROVISIONAL OPERATING LICENSE NO. DPR-13

DOCKET NO. 50-206

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

REMOVE

1a

52

53b

53d

53e

INSERT

1a

52

53b

53d

53e

1.6 CORE ALTERATION shall be the movement or manipulation of any component within the reactor pressure vessel with the vessel head removed and fuel in the vessel. Suspension of CORE ALTERATION shall not preclude completion of movement of a component to a safe conservative position.

CORRELATION CHECK

1.7 A CORRELATION CHECK shall be an engineering analysis of an incore flux map wherein at least one point along the incore versus excore correlation data plot is obtained.

CORRELATION VERIFICATION

1.8 A CORRELATION VERIFICATION shall be the engineering analysis of incore flux maps wherein multiple points along the incore versus excore correlation data plot are obtained.

DG FAST START

1.8.1 DG FAST START shall be an automatic or manual start of an emergency diesel generator in which the steady state voltage and frequency is achieved within 10 seconds.

DG SLOW START

1.8.2 DG SLOW START shall be an automatic or manual start of an emergency diesel generator in which steady state voltage and frequency is achieved in not less than 24 seconds.

DOSE EQUIVALENT I-131

1.9 DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcurie/gram) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, "Calculation of Distance Factors for Power and Test Reactor Sites."

FIRE SUPPRESSION WATER SYSTEM

1.10 A FIRE SUPPRESSION WATER SYSTEM shall consist of a water source(s), pump(s), and distribution piping with associated isolation valves (i.e., system header, hose standpipe and spray header isolation valves).

FREQUENCY NOTATION

1.11 The FREQUENCY NOTATION specified for the performance of Surveillance Requirements shall correspond to the intervals defined in Table 1.1.

*GASEOUS RADWASTE TREATMENT SYSTEM

1.12 A GASEOUS RADWASTE TREATMENT SYSTEM is any system designed and installed to reduce radioactive gaseous effluents by collecting primary coolant system offgases from the primary system and providing for delay or holdup for the purpose of reducing the total radioactivity prior to release to the environment.

4.4 EMERGENCY POWER SYSTEM PERIODIC TESTING

APPLICABILITY: Applies to testing of the Emergency Power System.

OBJECTIVE: To verify that the Emergency Power System will respond promptly and properly when required.

SPECIFICATION: A. The required offsite circuits shall be determined OPERABLE at least once per 7 days by verifying correct breaker alignments and power availability.

B. The required diesel generators shall be demonstrated OPERABLE:

1. At least once per 31 days on a STAGGERED TEST BASIS by:

a. Verifying the diesel performs a DG SLOW START from standby conditions,

b. Verifying a fuel transfer pump can be started and transfers fuel from the storage system to the day tank,

c. Verifying the diesel generator is synchronized and running at $4500 \text{ kW} \pm 5\%$ for ≥ 60 minutes, to include a brief load increase to $5250 \text{ kW} \pm 5\%$,

d. Verifying the diesel generator is aligned to provide standby power to the associated emergency buses,

e. Verifying the day tank contains a minimum of 290 gallons of fuel, and

f. Verifying the fuel storage tank contains a minimum of 37,500 gallons of fuel.

2. At least once per 3 months by verifying that a sample of diesel fuel from the required fuel storage tanks is within the acceptable limits as specified by the supplier when checked for viscosity, water and sediment.

C. AC Distribution

1. The required buses specified in Technical Specification 3.7, Auxiliary Electrical Supply, shall be determined OPERABLE and energized from AC sources other than the diesel generators with tie breakers open between redundant buses at least once per 7 days by verifying correct breaker alignment and power availability.

2. Simulating SISLOP*, and:
 - a. Verifying operation of circuitry which locks out non-critical equipment,
 - b. Verifying the diesel performs a DG FAST START from standby condition on the auto-start signal, energizes the emergency buses with permanently connected loads and the auto connected emergency loads** through the load sequencer (with the exception of the feedwater, safety injection, charging and refueling water pumps whose respective breakers may be racked-out to the test position) and operates for ≥ 5 minutes while its generator is loaded with the emergency loads,
 - c. Verifying that on the safety injection actuation signal, all diesel generator trips, except engine overspeed and generator differential, are automatically bypassed.
3. Verifying the generator capability to reject a load of 3220 kW without tripping.

* SISLOP is the signal generated by coincident loss of offsite power (loss of voltage on Buses 1C and 2C) and demand for safety injection.

** The sum of all loads on the engine shall not exceed 5250 kW + 5%.

Basis:

The normal plant Emergency Power System is normally in continuous operation, and periodically tested.(1)

The tests specified above will be completed without any preliminary preparation or repairs which might influence the results of the test except as required to perform the DG SLOW START test set forth in T.S. 4.4.B.1.a. The tests will demonstrate that components which are not normally required will respond properly when required. Test loading of the generator to 4500 kW and 5250 kW corresponds to approximate engine brake mean effective pressures of 116 psi and 135 psi, respectively.

DG SLOW STARTS are specified for the monthly surveillances in order to reduce the cumulative fatigue damage to the engine crankshafts to levels below the threshold of detection under a program of augmented inservice inspection. In the event that the DG SLOW START inadvertently achieves steady state voltage and frequency in less than 24 seconds, the surveillance will not be considered a failure and require restart of the diesel generator.

The monthly surveillance specified by T.S. 4.4.B.1.c includes a "brief" load increase to 5250 kW \pm 5%. This requirement verifies the ability to function under the maximum possible loading conditions. A "brief" test is required to demonstrate operability while minimizing the increased stresses from the higher load. The duration of this test is expected to be approximately three to five minutes.

The surveillance requirements for demonstrating the OPERABILITY of the station batteries are based on the recommendations of Regulatory Guide 1.129, "Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Nuclear Power Plants," February 1978, and IEEE Std 450-1980, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations."

Verifying average electrolyte temperature above the minimum for which the battery was sized, total battery terminal voltage on float charge, connection resistance values and the performance of battery service and discharge tests ensure the effectiveness of the charging system, the ability to handle high discharge rates and compares the battery capacity at that time with the rated capacity.

Table 4.4-1 specifies the normal limits for each designated pilot cell and each connected cell for electrolyte level, float voltage and specific gravity. The limits for the designated pilot cells float voltage and specific gravity, greater than 2.13 volts and .020 below normal full charge specific gravity or a battery charger current that has stabilized at a low value, is characteristic of a charged cell with adequate capacity. The normal limits for each

connected cell for float voltage and specific gravity, greater than 2.13 volts and not more than .020 below normal full charge specific gravity with an average specific gravity of all the connected cells not more than .010 below normal full charge specific gravity, ensures the OPERABILITY and capability of the battery.

Operating with a battery cell's parameter outside the normal limit but within the allowable value specified in Table 4.4-1 is permitted for up to 7 days. During this 7 day period: (1) the allowable values for electrolyte level ensures no physical damage to the plates with an adequate electron transfer capability; (2) the allowable value for the average specific gravity of all the cells, not more than .020 below normal full charge specific gravity, ensures that the decrease in rating will be less than the safety margin provided in sizing; (3) the allowable value for an individual cell's specific gravity, ensures that an individual cell's specific gravity will not be more than .040 below normal full charge specific gravity and that the overall capability of the battery will be maintained within an acceptable limit; and (4) the allowable value for an individual cell's float voltage, greater than 2.07 volts, ensures the battery's capability to perform its design function.

Reference:

- (1) Supplement No. 1 to Final Engineering Report and Safety Analysis, Section 3, Questions 6 and 8.