

UNITED STATES OF AMERICA
 NUCLEAR REGULATORY COMMISSION

In the Matter of)	
)	
SOUTHERN CALIFORNIA EDISON COMPANY)	
AND SAN DIEGO GAS AND ELECTRIC)	Docket No. 50-206
COMPANY)	
)	
(San Onofre Nuclear Generating)	
Station, Unit No. 1))	

ORDER CONFIRMING LICENSEE COMMITMENTS
ON SEISMIC UPGRADING

I.

The Southern California Edison Company (SCE) and the San Diego Gas and Electric Company (the licensees) hold Provisional Operating License No. DPR-13, which authorizes Southern California Edison Company to operate the San Onofre Nuclear Generating Station, Unit No. 1 (the facility) at power levels not in excess of 1347 megawatts (thermal) rated power. The facility, which is located at the licensees' site in San Diego County, California, is a pressurized water reactor (PWR) used for the commercial generation of electricity.

II.

The San Onofre Nuclear Generating Station, Unit No. 1, is one of eleven older operating plants that are part of the Systematic Evaluation Program (SEP). The purpose of the SEP is to evaluate these plants against current licensing criteria to provide an integrated and balanced decision on backfitting. One of the SEP topics is the reevaluation of the capability of San Onofre Unit 1 to withstand seismic events.

The San Onofre Unit 1 was licensed by the Atomic Energy Commission on March 27, 1967. In the original seismic design, components, systems and structures which were designated as important to the nuclear safety of the plant were designated Seismic Category A. Specifically, structures, systems and components associated with the reactor coolant system, boron injection, safety injection system, and residual heat removal were designed as Seismic Category A. The design basis used for Seismic Category A was what in today's terminology would be consistent with the 0.25g Housner Spectra Operating Basis Earthquake (OBE) and the 0.5g Housner Spectra Safe Shutdown Earthquake (SSE). The Turbine Building extensions, which contain Seismic Category A systems and components, were designated Seismic Category B and designed to a maximum ground acceleration of 0.2g (static force criteria). Seismic Category B is a classification specified by the licensees for components, systems, and structures that are important to the continuity of power generation or whose contained activity is such that release would not constitute a hazard.

Since the original plant was constructed, various structures and systems have been added to the plant. The licensees designed these new items to higher seismic levels to be consistent with the criteria being applied in the design of Units 2 and 3. Specifically, the sphere enclosure building and the diesel generator and its associated structures, system and components were designed to a 0.67g modified Newmark response spectra (more conservative than the Housner Spectra).

In 1973, the licensees initiated a program to reevaluate and modify as necessary the capability of San Onofre Unit 1 to withstand seismic events. The criteria for this program were the 0.67g Housner Spectra. The first phase of this program consisted of reevaluating (1) systems and components to prevent

a design basis loss of coolant accident, including the main reactor coolant loop and Nuclear Steam Supply System (NSSS) components, and (2) the reactor building and the containment sphere. Based upon their reanalyses, the licensees concluded that the containment sphere, the reactor building and structural steel framing have resistance capacities in excess of those required to meet 0.67g Housner Spectra. As a result, the licensees concluded that modifications to these structures were not necessary. However, support modifications in the form of additional seismic restraints were required to meet allowable stresses for several of the larger NSSS components which were base supported. These modifications were implemented during an outage in 1976-1977.

Following initiation of the SEP in 1978, subsequent phases of the seismic reevaluation program were incorporated into the SEP. This program is proceeding in three phases: (1) reevaluation of balance-of-plant structures; (2) reevaluation of piping and mechanical equipment required to shut down the plant; and (3) reevaluation of piping and mechanical equipment required to mitigate the consequences of accidents. The earthquake input being used for this program is the 0.67g Housner response spectra.

The NRC staff issued letters dated August 4, 1980 and April 24, 1981 to the licensees requesting details of the seismic reevaluation program including the scope of review, the evaluation criteria, the schedule for completion and justification for continued operation in the interim until completion of the seismic reevaluation program. The licensees responded by letters dated September 24, 1980, February 23, April 24, July 7, August 11, September 28, October 5, 1981 and October 19, 1981. The NRC

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Staff evaluated the licensee's responses and issued a Safety Evaluation Report of the Interim Seismic Adequacy for San Onofre Unit 1 dated November 16, 1981. This report addressed the licensees' conclusion that continued operation is acceptable in the interim until the seismic reevaluation, and any necessary upgrading, is complete. The NRC staff agreed with the licensees' April 28, 1980 basis for continued operation for those systems, structures, and components which were originally designed to meet the 0.5g Housner Spectra as ground motion input; however, the staff concluded that certain modifications were necessary, in the near term, to upgrade the North Turbine Building Extension and the West Feedwater Heater Platform which were originally designed to 0.2g static. The licensees made modifications to upgrade these structures during the current outage which began on February 27, 1982.

At a meeting with the NRC staff on May 3, 1982, the licensees presented the results of their reevaluation, using the 0.67g Housner Spectra, of the balance of plant mechanical equipment and piping required to shutdown the plant. The results of the licensees' evaluation as documented in their April 30, 1982 submittal showed high stress values for certain equipment, piping and their supports. These high stress values caused the NRC staff to raise a concern as to whether existing piping, pipe supports and mechanical equipment including its anchorage meet the original licensing basis for San Onofre Unit 1. This concern was the subject of a meeting between the licensees and the NRC staff on May 20, 1982. At the end of this meeting, the NRC staff concluded that the licensees needed to provide information that demonstrates that the facility meets its licensed design basis before the plant would be permitted to restart from the current outage.

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III.

By letter dated June 15, 1982 as supplemented by letter dated June 24, 1982, the licensees stated that they intend to complete the analyses and make modifications to the facility to meet the 0.67g Housner Spectra ground motion rather than to demonstrate that the facility meets its original 0.5g Housner Spectra design basis. The licensees committed to extend the present outage until the modifications are completed to upgrade San Onofre Unit No. 1 to 0.67g Housner Spectra ground motion. In view of the foregoing information regarding the seismic capability of the facility, I have determined that the licensees' commitment is required in the interest of the public health and safety and should, therefore, be confirmed by an immediately effective Order.

IV.

Accordingly, pursuant to Sections 103 and 161i of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR Parts 2 and 50, IT IS HEREBY ORDERED, EFFECTIVE IMMEDIATELY, THAT the licensees shall:

Maintain San Onofre Unit 1 in the shutdown condition until modifications described in their submittal dated June 15, 1982 as supplemented by letter dated June 24, 1982 are completed and NRC approval is obtained for restart.

V.

The licensees may request a hearing on this Order within 20 days of the date of publication of this Order in the Federal Register. A request for a hearing shall be addressed to the Director, Division of Licensing, Office of Nuclear Reactor

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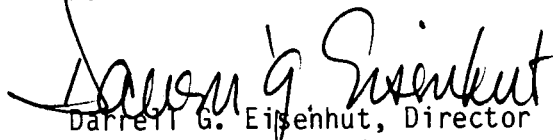
Regulation, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555. A copy shall also be sent to the Executive Legal Director at the same address. A REQUEST FOR HEARING SHALL NOT STAY THE IMMEDIATE EFFECTIVENESS OF THIS ORDER.

If a hearing is requested by the licensees, the Commission will issue an Order designating the time and place of any such hearing. Resumption of operation on terms consistent with this Order need not be stayed by the pendency of any proceeding on this Order.

If a hearing is held concerning this Order, the issue to be considered at the hearing shall be whether, as set forth in Section IV of this Order, the licensees should maintain San Onofre Unit 1 in the shutdown condition until modifications described in their submittal dated June 15, 1982 as supplemented by letter dated June 24, 1982 are completed and NRC approval is obtained for restart.

This Order is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Darrell G. Eisenhower, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Dated at Bethesda, Maryland
this 11th day of August, 1982.