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 ROSENBLUM, R.M.      Southern California Edison Co.  
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SUBJECT: Responds to Suppl 1 to GL 87-02 re verification of seismic adequacy of mechanical & electrical equipment, per USI A-46. Util does not intend to submit info required by Suppl 1, based on decision to permanently shutdown plant by Nov 1992.

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*Southern California Edison Company*

23 PARKER STREET  
IRVINE, CALIFORNIA 92718

September 18, 1992

R. M. ROSENBLUM  
MANAGER OF  
NUCLEAR REGULATORY AFFAIRS

TELEPHONE  
(714) 454-4505

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555

Gentlemen:

**Subject: Docket No. 50-206  
Response to Supplement No. 1 to Generic Letter (GL) 87-02,  
Verification of Seismic Adequacy of Mechanical and Electrical  
Equipment in Operating Reactors, Unresolved Safety Issue  
(USI)A-46  
San Onofre Nuclear Generating Station Unit 1**

- References:**
- (1) Letter dated July 11, 1986, from T. M. Novak (NRC) to K. P. Baskin (SCE), Unit 1 Long-Term Service (LTS) Seismic Reevaluation Program
  - (2) Letter dated October 7, 1988, from M. O. Medford (SCE) to the NRC, Response to Generic SER on Resolution of Unresolved Safety Issue A-46

This letter provides our response to Supplement No. 1 to Generic Letter (GL) 87-02 concerning verification of seismic adequacy of mechanical and electrical equipment. We had previously anticipated conducting a seismic verification to satisfy the generic letter requirements. However, the California Public Utilities Commission recently approved a plan requiring the permanent shutdown of SONGS 1 at the end of the current fuel cycle, which we forecast to be in the end of November 1992. Since seismic verification is not required for a non-operating unit, we do not plan to implement any additional actions for GL 87-02.

**BACKGROUND**

In December 1980 the NRC initiated unresolved safety issue (USI) A-46, "Seismic Qualification of Equipment in Operating Plants." The safety concern was that for plants with construction permits docketed before 1972, the seismic qualification of equipment had not been reviewed to the current criteria.

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In January 1982, the Seismic Qualification Utility Group (SQUG) was formed to address USI A-46 on a generic basis, and SCE became an active member. In February 1987, the NRC issued Generic Letter 87-02, "Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, Unresolved Safety Issue (USI) A-46." The generic letter provided guidelines for resolution of USI A-46. In addition, it requested all recipients to provide within 60 days a schedule for implementing the seismic verification program at their facilities. In response, SQUG, representing its member utilities, committed to a program to develop a Generic Implementation Procedure (GIP) for use by its members, and requested a deferral of the 60-day response period until after the NRC issued its final safety evaluation report (SER) on the generic procedure. The NRC agreed to this deferral.

The SQUG completed the final version of the GIP (known as GIP-2) and submitted it for NRC review and approval on February 14, 1992. The NRC reviewed GIP-2 and, on May 22, 1992, issued Supplement No. 1 to GL 87-02, which transmitted supplemental safety evaluation report (SSER) No. 2 on GIP-2. Supplement No. 1 supersedes all previous NRC staff documents on this subject and requires a response within 120 days of the date of the supplement.

#### RESPONSE TO SUPPLEMENT NO. 1

In summary, Supplement No. 1 requires the following information:

- A statement committing to use GIP-2 as supplemented by SSER No. 2 for the resolution of USI A-46, or an alternative plan for responding to GL 87-02.
- A plant-specific schedule for implementing GIP-2 and submitting a report that summarizes the results of the USI A-46 review. (The normal time allowed for submitting the report is 3 years after the date of Supplement No. 1, which is May 22, 1992.)
- Detailed information as to the procedures and criteria used to generate the in-structure seismic response spectra to be used for resolution of USI A-46.

We do not plan to submit the information required by Supplement No. 1.

The purpose of seismic verification is to assure that the plant can be brought to, and maintained in, hot shutdown during the first 72 hours following a safe shutdown earthquake. (It is assumed that offsite power may be unavailable during these 72 hours.) Under GIP-2 and SSER No. 2 guidelines, the scope of the verification is limited to the equipment required to accomplish and monitor the accomplishment of the following four safe-shutdown functions:

- reactor reactivity control
- reactor coolant pressure control

- reactor coolant inventory control
- decay heat removal.

SONGS 1 has completed many of the evaluations required by GIP-2 as part of the long-term service seismic reevaluation program undertaken in the 1980s. The items evaluated included equipment anchorages, storage tanks, heat exchangers and electrical raceway supports. These items were evaluated to the currently applicable .67g modified-Housner ground response spectra. The NRC noted in their safety evaluation report on our reevaluation program (see Reference 1) that almost all seismically induced equipment failures in large industrial facilities have occurred because the components were not adequately anchored to their foundations. The NRC also found that the equipment anchorages at SONGS 1 are acceptable. Based on this favorable conclusion, in Reference 2 we informed the NRC that the items identified above were considered resolved by the reevaluation program and would not be addressed under USI A-46. At the same time, Reference 2 committed us to apply the GIP criteria and methodology to other equipment (relays, switchgear etc.) that supports the four safe-shutdown functions, unless a change in our implementation schedule became necessary. As explained below, we no longer consider implementation of GIP-2 necessary.

SONGS 1 will be permanently shut down approximately the end of November 1992 and the reactor subsequently defueled in March 1993. Following defueling, the four shutdown functions will no longer be required to achieve and maintain hot shutdown conditions. The spent fuel will be placed in the spent fuel pool for long term decay heat removal, which will be provided by the component cooling water system in conjunction with the salt water cooling system. These changes will take place within the 3 year interval allowed by GL 87-02 to submit the results of USI A-46 review. It serves no purpose to verify the seismic integrity of equipment that will no longer be required for safe shutdown.

The spent fuel pool cooling system is not part of the seismic verification required to resolve USI A-46, in accordance with the guidance provided in GIP-2 and SSER No. 2. Additionally, as part of the seismic reevaluation program, the fuel storage building and the spent fuel pool were evaluated to the currently applicable .67g modified-Housner ground response spectra. This will ensure that the main barrier to a postulated release of radioactivity to the environment due to a safe shutdown earthquake remains intact after the reactor has been defueled. (Note that the component cooling water system and the salt water cooling system were also included in the seismic reevaluation program and were evaluated to the 0.67g modified-Housner spectra.)

The current in-structure seismic response spectra for SONGS 1 are described in the Updated Final Safety Analysis Report (UFSAR) (See Section 3.7, "Seismic Design"). Since SONGS 1 was included in the systematic evaluation program, Supplement No. 1 permits the UFSAR response spectra to be used to resolve USI A-46. In view of the planned permanent shutdown at the end of the current fuel cycle, this information will no longer be needed.

This completes our response to GL 87-02. If you have any questions, please call me.

Respectfully submitted,  
SOUTHERN CALIFORNIA EDISON COMPANY

By: R.M. Rosenblum  
R. M. Rosenblum  
Manager of Nuclear Regulatory Affairs

State of California  
County of Orange

On 9/18/92 before me, Mariane Sanchez,  
personally appeared R.M. Rosenblum, personally known to me to be  
the person whose name is subscribed to the within instrument and acknowledged  
to me that he executed the same in his authorized capacity, and that by his  
signature on the instrument the person, or the entity upon behalf of which  
the person acted, executed the instrument.

WITNESS my hand and official seal.

Signature

Mariane Sanchez



- cc: J. B. Martin, Regional Administrator, NRC Region V
- George Kalman, NRC Senior Project Manager, San Onofre Unit 1
- J. O. Bradfute, NRC Project Manager, San Onofre Unit 1
- C. W. Caldwell, NRC Senior Resident Inspector, San Onofre Units 1, 2&3