



Southern California Edison Company

P. O. BOX 128

SAN CLEMENTE, CALIFORNIA 92674-0128

June 4, 1996

WALTER C. MARSH
MANAGER OF NUCLEAR REGULATORY AFFAIRS

TELEPHONE
(714) 366-7501

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

Gentlemen:

Subject: Docket Nos. 50-361 and 50-362
Station Batteries
San Onofre Nuclear Generating Station
Units 2 and 3

Southern California Edison (Edison) is submitting this letter in response to an NRC request made during a May 9, 1996, telephone call for information concerning the results of surveillance testing of the 1E station batteries conducted during the Cycle 8 refueling outages. During the telephone call it was made clear that the existing batteries are operable and will perform all required safety functions. The information requested by the NRC concerning current status and Edison's plans for assuring the long term performance of the batteries is provided below.

Technical Specification 3.8.2, "D.C. Power Sources," requires periodic testing to assure adequate battery capacity and operability. The results of the performance discharge tests specified by Technical Specification 3.8.2 conducted during the Cycle 8 refueling outages indicated an apparent drop in battery bank capacity. This apparent drop in capacity was indicated for three of our eight (four per Unit) 1E battery banks. The affected banks are 2D1 (Unit 2 Train A), 3D1 (Unit 3 Train A), and 3D2 (Unit 3 Train B). These three banks consist of Exide 2GN-15 cells, which were manufactured in 1992. These three banks are the only banks with cells of this type with this 1992 manufacturing date. Bank 2D2 (unit 2 Train B) consists of 2GN-15 cells manufactured in 1989.

Edison determined by subsequent investigation that the batteries in banks 2D1, 3D1, and 3D2 have not lost capacity. This investigation included discharge tests of various durations on samples sent back to the manufacturer's facility, and a dissection and internal examination of the sample cells. It was determined that the manufacturer's Ampere ratings for discharge periods longer than two hours are overstated for 1992 production batches. As a result, our four hour tests yielded results which appeared to be about 10 percent lower than the original factory two hour tests.

060019

Aool
1/0

9606060102 960604
PDR ADDCK 05000361
PDR

For the subject battery banks, the accident profile is 90 minutes. The blackout profile is four hours, which requires the use of the four hour rate as the criteria for the performance tests. Edison expects the four hour test results to be near 90 percent of manufacturer's rated four hour capacity. As the battery sizing calculation assumes a battery at 80 percent of the manufacturer's rating, our results are permissible and indicate no immediate problem. Based on the acceptance criteria of 80 percent of the manufacturer's rating in the Technical Specification Surveillance 4.8.2.1, all three banks are considered Operable and are expected to remain so for a normal (20 year) life expectancy. Any future performance test results under 90 percent of the manufacturer's rating would require annual testing of the affected banks as required by Technical Specifications and IEEE 450-1980. The San Onofre Units 2 and 3 design features do not facilitate testing these batteries unless the unit is shutdown.

Edison currently is in the process of obtaining the revised capacity curves applicable to the 1992 batch of 2GN-15 from the battery manufacturer. Based on these curves and the results of the capacity tests performed during the Cycle 8 refueling outages a new baseline capacity will be established for these banks. Edison will revise the design calculations for sizing batteries and the maintenance procedures as necessary. If this approach proves impractical, Edison will consider replacing the batteries based on the results of future outage discharge testing. A decision on the batteries should be finalized by the conclusion of the Unit 3, Cycle 9 refueling outage.

Edison continues to perform all technical specification required testing and surveillances to ensure these batteries remain operable. Edison is also performing the following supplemental tests to determine if any premature loss of capacity may be occurring:

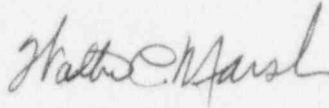
- Annual performance discharge testing on spare cells of 2D1, 3D1, and 3D2 battery banks prior to the start of Unit 2 Cycle 9 refueling outage. (The 2D1 spares were tested in February, 1996 yielding a result over 96 percent of the manufacturer's rating. The 3D1 and 3D2 spares will be tested before September 30, 1996.)
- A 4 hour performance discharge test in addition to the required service test on battery banks 2D1 and 3D2 during the Cycle 9 refueling outages.

Edison retains the results of the battery testing at the San Onofre site, and these results are available for NRC review. Edison will inform the NRC within 90 days of the end of the Unit 3 Cycle 9 refueling outage should a course of action other than the battery rerating described above be chosen.

As described above, Edison's actions will ensure long term performance of 1E station batteries.

If you have any questions in this matter, please call me.

Very truly yours,



cc: L. J. Callan, Regional Administrator, NRC Region IV
J. E. Dyer, Director, Division of Reactor Projects, Region IV
K. E. Perkins, Jr., Director, Walnut Creek Field Office, NRC Region IV
J. A. Sloan, NRC Senior Resident Inspector, San Onofre Units 2 & 3
M. B. Fields, NRC Project Manager, San Onofre Units 2 and 3