UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION V
1450 MARIA LANE, SUITE 210
WALNUT CREEK, CALIFORNIA 94596

JUL 17 1987

Docket No. 50-206

Southern California Edison Company
P. O. Box 800
2244 Walnut Grove Avenue
Rosemead, California 91770

Attention: Mr. Kenneth P. Baskin, Vice President
Nuclear Engineering, Safety and Licensing Department

Gentlemen:

SUBJECT: NRC TEAM INSPECTION OF SAN ONOFRE NUCLEAR GENERATING STATION UNIT 1

This refers to the special team inspection conducted by Mr. R. C. Sorensen and other NRC personnel on June 1 through June 12, 1987 of activities authorized by NRC License No. DPR-13, and to the discussion of their findings held with Mr. H. B. Ray and other members of his staff at the conclusion of the inspection.

Areas examined during this inspection are described in the enclosed inspection report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspectors.

Based on the results of this inspection, it appears that certain of your activities were not conducted in full compliance with NRC requirements as set forth in the Notice of Violation, enclosed herewith as Appendix A. Your response to this Notice is to be submitted in accordance with the provisions of 10 CFR 2.201 as stated in Appendix A, Notice of Violation.

This inspection was conducted during the 42-day mid-cycle maintenance outage in Unit 1. The objective of the inspection was to determine the effectiveness of preventive and corrective maintenance practices in preventing, or detecting and correcting, equipment degradation. This included the witnessing of in-process maintenance and post maintenance activities, and the observance of evaluation and correction of unanticipated problems. Samples of design change packages and maintenance orders were assessed for technical adequacy and proper implementation. Quality Assurance involvement in various aspects of maintenance activities was also evaluated. Finally, the radiological controls associated with the 42-day maintenance outage were observed and assessed.

I am particularly disappointed by the findings which point out weaknesses in your conduct of technical and engineering work. I did not expect this to be an area of weakness, and urge you to thoroughly assess your technical and engineering performance and aggressively implement needed corrective actions to restore full confidence in these important areas.

A summary of the areas inspected and results is included in Appendix B.

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Overall Conclusions

The team determined that weakness exists in the performance of technical work at San Onofre, both stationwide and at the corporate office, especially in the area of Class 1E batteries. We cite the following examples as evidence of this weakness:

- Proposed Facility Changes (PFCs) improperly dispositioned by Engineering and Construction (E&C) concerning station Class 1E batteries. PFCs 1-87-3465 and 1-86-3400, both dealing with the addition of Inverter 4A, both state that the change "has no impact on the existing Technical Specifications, limiting conditions of operation or surveillance requirements." This is clearly in error as the addition of Inverter 4A does change the battery no. 1 load profile and, therefore, does affect its surveillance requirements. The team also noted that these PFCs passed through several levels of review prior to issuance and that the error was not detected by these reviews.

- Failure by E&C to identify which load profile on a particular calculation was the correct one to use for surveillance testing of battery no. 2. Page 43 of design calculation 1399, Rev. 1, shows two load profiles, a solid line labeled "new result" and a dotted line labeled "present result". No one that the inspectors spoke with seemed to know what these terms meant. Consequently, the much greater load profile was used and battery no. 2 failed the service test in 20 minutes, and could have sustained damage except for the alertness of the test personnel. Here too, calculations passed through several levels of review prior to issuance.

- Station Technical failed to have the proper load profile values incorporated into the battery service test procedure. This occurred on three (3) separate occasions, twice for battery no. 1 and once for battery no. 2. This resulted in a violation of Technical Specifications.

- E&C provided the wrong value for the original acceptance test of battery no. 1. A value of 1240 amps was originally used. However, when a verification of this value was requested by the team, a new number, 944 amps, was determined as the correct value that should have been used. Although the old value for the performance test of battery no. 1 was a conservative one, it still points to a laxness in the performance of a design calculation.

- A Construction Work Order (CWO), #87060463000, which was generated by Startup Engineering and used to test modifications to vital bus no. 4, lacked adequate detail to enable the modification to be properly tested. A generic test procedure was referenced in the CWO which provided little or no specific direction as to how the modification should be tested. A procedure was generated by the stand-in cognizant engineer and two technicians, on two sheets of paper, which had not received management review and approval. Fortunately, the shift superintendent refused to conduct this "back of the envelope" procedure until it had received proper management approval. Furthermore, it was not clear to the team what the QC hold point, contained in the CWO, required the QC inspector to verify.

It is our position that post modification testing should be spelled out in specific detail by responsible engineers and receive proper management review and approval. It should not be left to the discretion of the operations staff and maintenance technicians to develop "back of the envelope" procedures.

- Lack of rigor was observed in the area of documenting the evaluation of substitute parts for equivalency. Although no specific deficiencies were identified, it is the consensus of the team that these evaluations should be better documented to justify why parts or components which differ from the original are considered equivalent for safety related applications.

In particular, we are concerned, with regard to battery surveillance testing, that service tests were performed incorrectly on three different occasions. The team noted that, through the various review processes involved, numerous opportunities existed to identify and correct the deficiencies which lead to these improper service tests. However, these deficiencies were not identified, and consequently, the batteries were incorrectly tested.

We understand that extensive corrective action has been undertaken to correct these problems with station batteries and, in some cases, has already been implemented. We request that you address the broader aspects of these problems, determine if other plant systems or components are affected, and take the necessary corrective action in more generic terms.

In addition to your response to the enclosed Notice of Violation, please include in your response letter, those actions taken or planned to address the concerns noted above.

In accordance with 10 CFR 2.790(a), a copy of this letter and the enclosure will be placed in the NRC Public Document Room.

The responses directed by this letter and the accompanying Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

Should you have any questions concerning this inspection, we will be glad to discuss them with you.

Sincerely,

J. B. Martin
Regional Administrator

Enclosures:
A. Appendix A - Notice of Violation
B. Appendix B - Areas Inspected and Results
C. Inspection Report No. 50-206/87-05

cc w/enclosures:
D. J. Fogarty, SCE
H. B. Ray, SCE (San Clemente)
H. E. Morgan, SCE (San Clemente)
State of California

cc w/enclosures:
D. J. Fogarty, SCE
H. B. Ray, SCE (San Clemente)
H. E. Morgan, SCE (San Clemente)
State of California

bcc w/enclosures:
[redacted]
docket file
G. Cook
B. Faulkenberry
J. Martin
Resident Inspector
Project Inspector

bcc w/enclosures A&B only:
LFMB
M. Smith

REGION V/dot

JBurdoin	CCaldwell	GFiorelli	JMelfi	for PMcLaughlin
REQUEST COPY	REQUEST COPY	REQUEST COPY	REQUEST COPY	REQUEST COPY
~~YES~~ / ~~NO~~	YES / NO	YES / NO	~~YES~~ / NO	YES / NO
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for ADatta	for PEng	for BCollins	JRussell	RSorensen
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YES / NO	YES / NO	YES / NO	YES / NO	YES / NO
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SRichards	RPate	DKirsch	JMartin
7/15/87	7/15/87	7/16/87	7/9/87
REQUEST COPY	REQUEST COPY	REQUEST COPY	REQUEST COPY
YES / NO	YES / NO	YES / NO	YES / NO

AJohnson
7/16/87

SEND TO PDR
YES / NO