Southern California Edison Company

23 PARKER STREET

IRVINE, CALIFORNIA 92718

HAROLD B. RAY
SENIOR VICE PRESIDENT

TELEPHONE
714-456-4400

April 2, 1991

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

Gentlemen:

Subject: Docket No. 50-361
Reply to a Notice of Violation
San Onofre Nuclear Generating Station, Unit 2

Reference: Letter from Mr. S. A. Richards (USNRC) to Harold B. Ray (SCE), dated March 4, 1991

The referenced letter forwarded a Notice of Violation resulting from the routine NRC inspection conducted from December 23, 1990 through January 30, 1991, at the San Onofre Nuclear Generating Station, Units 1, 2, and 3. This inspection addressed a failure to follow a surveillance procedure when Instrument and Control technicians did not reset one trip channel prior to testing a second trip channel. This resulted in the inadvertent actuation of the Containment Spray System, Safety Injection System, and the Containment Cooling System. This inspection was documented in NRC Inspection Report Nos. 50-206/90-43, 50-361/90-43 and 50-362/90-43.

In accordance with 10 CFR 2.201, the enclosure to this letter provides the Southern California Edison (SCE) reply to the Notice of Violation.

If you have any questions regarding SCE's response to the Notice of Violation or require additional information, please call me.

Sincerely,

Harold B. Ray

Enclosure

cc: J. B. Martin, Regional Administrator, NRC Region V
C. W. Caldwell, NRC Senior Resident Inspector, San Onofre Units 1, 2 and 3

IE01
1/1

ENCLOSURE

Reply to a Notice of Violation

The enclosure to Mr. Richards' letter dated March 4, 1991, states in part:

"Section 6.8.1.c of the San Onofre Unit 2 Technical Specifications requires the licensee to implement written procedures for the accomplishment of surveillance and test activities for safety related equipment.

"Procedure SO23-II-1.1.5, Revision 1, 'Surveillance Requirement, Reactor Plant Protection System Logic Matrix Functional Test (31 Day Interval),' Section 6.4.9, specified the following steps to reset trip path 1 of the Containment Spray Actuation System (CSAS):

'.5 Depress the Reset pushbutton for CSAS on the Actuation Reset Panel Bay A.

'.6 Verify the following:

'.6.1 The CSAS Trip Path 1 Indicators on the Local Status Panel and Remote Control Module A are illuminated.

'.6.2 The CSAS Actuation Relay Indicating Lights (1,3)A and (1,3)B are illuminated on the Local Status Panel.

'.7 At the Actuation Reset Panel Bay A, Rotate the LOCK/UNLOCK key switch to the number 2 [sic] position.'

"Contrary to the above, on November 20, 1990, instrument and control technicians conducting this surveillance procedure did not accomplish the specified actions to reset Trip Path 1 before testing trip path 2, resulting in an inadvertent actuation of containment spray.

"This item is a Severity Level IV violation (Supplement I)."

RESPONSE

1. Reasons for the Violation.

Failure to Follow Procedures

On November 20, 1990, a lead technician and three other technicians were conducting a 31 day logic matrix functional surveillance test. The lead technician located near the PPS panels directed the activities of the other technicians via telephone headsets: one of the three other technicians was positioned at the PPS panels and performed manipulations of the panels' controls; the second technician was positioned at the Unit 2 control room panel 2CP[illegible] and verified the occurrence of and reset control room annunciations; and the third technician obtained voltage measurements from the ESFAS panels 2L034 and 2L035, assisted the technician at the PPS panels, and performed the documented second person verification when required by the test procedure.

While directing the test by reading the surveillance procedure steps to the other technicians, the lead technician inadvertently skipped two pages. The omitted pages included the section for resetting the first trip channel. In addition, the technician responsible for performing second person verification, only ensured verification steps called out by the lead technician were performed. This was consistent with the verification process required by the Maintenance Administrative Procedure SO123-I-1.7. Consequently, the technician did not verify if the lead technician called out all verification steps listed in the procedure. Therefore, he did not notice the omission of the verification steps which would have ensured the first trip channel was reset.

A contributing factor to the omission was the technicians setting a goal to complete the testing prior to attending scheduled training that afternoon. This self-imposed goal was based on their desire to complete the surveillance instead of turning the work over to the incoming shift.

As a result of the omission, the instructions for resetting the first trip channel were not performed prior to setting the trip selector switch for the next trip channel to the trip position. This satisfied the 2 out of 4 trip logic and initiated the Containment Spray System (CSS), Safety Injection System (SIS), and Containment Cooling System (CCS) at 0946 on November 20, 1990.

2. **Corrective steps that have been taken and the results achieved.**

Procedural Compliance

The I&C organization developed and implemented more detailed guidelines governing the planning and execution of surveillance testing of Plant Protection System (PPS), Engineered Safety Feature Actuation System (ESFAS), and other critical plant components. These guidelines are discussed with the technicians prior to starting work (e.g. tailboards on MATRIX, PPS CHANNEL, and SAFETY CHANNEL surveillance testing). These guidelines enhance the existing surveillance testing methodology by formalizing: 1) the roles and responsibilities of the technicians involved in the testing, 2) communications between those involved in the testing, and 3) the requirement for technicians to monitor and control their pace during testing.

I&C personnel involved in the event received appropriate disciplinary action for failing to fully adhere to procedural requirements while performing surveillance activities.

In accordance with Maintenance Incident Investigation Report, MIIR-90-035, this event was reviewed with all Unit 2 and 3 I&C personnel stressing the importance of procedural compliance and attention to detail while performing surveillance activities.

Evaluation of Work Verification Process

Maintenance Division Management conducted an evaluation of the work verification process and determined the process needed to be enhanced. As a result, the Maintenance administrative procedure "MAINTENANCE ORDER PREPARATION, USE AND SCHEDULING," SO123-I-1.7, was revised on March 14, 1991, to add requirements for an Independent Critical Component Checker.

This Independent Critical Component Checker is not allowed to have any direct responsibility for the performance of the action being checked. Specifically, when incorrect performance of a maintenance activity has the potential to cause an immediate plant transient or actuation of an engineered safety feature system, an independent check of the procedure steps performed will be made prior to continuing the maintenance activity.

3. **Corrective steps that will be taken to avoid further violations.**

Procedure Revisions

The five procedures affecting PPS CHANNEL and MATRIX testing, SO23-II-1.1.1 through SO23-II-1.1.5, will be revised by June 30, 1991, to include: 1) the detailed I&C guidelines mentioned above in item 2, Procedural Compliance, and 2) specific sign-offs for the Independent Critical Component Checker.

Sign-offs already exist in the procedures for the "verified by" initials of a verification checker who is not required to be independent of the work activity. This verification checker will continue to be utilized and is now called a Critical Component Checker.

Similar revisions will be completed by September 30, 1991, for the Unit 1 procedure, SO1-II-1.1.

The "SONGS MAINTENANCE PROCEDURE WRITERS GUIDE," MPG-001, and "I&C/ET PROCEDURES GROUP PROCEDURE AUTHOR'S GUIDE," PAG-001, will be revised by April 30, 1991, to include instructions for establishing independent verification criteria in maintenance procedures during procedure preparation, revisions, and Annual/Biennial procedure reviews. The revision of MPG-001 AND PAG-001 will ensure that when applicable Maintenance procedures are updated during the annual/biennial review process or procedure revisions, the Independent Critical Component Checker requirements are included.

Required Reading

By April 3, 1991, Unit 1 I&C personnel will complete a required reading assignment of MIIR-90-035 which documents the event.

Caution Statement

The San Onofre Maintenance Management system (SOMMS) will be revised by August 31, 1991, to include a caution statement at the beginning of the Work Plan in Maintenance Orders (MO) and Construction Work Orders (CWO) for components which can initiate a plant transient or activate an engineered safety feature system (critical components). The statement will remind the MO/CWO Planner and Foreman that a Critical Component Checker may be required for the work activity.

4. **Date when full compliance will be achieved.**

Full compliance with the procedure was achieved on November 21, 1990, when the surveillance test of the Reactor Plant Protection System was successfully completed.