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June 5, 1989

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

Gentlemen:

Subject: Docket Nos. 50-206, 50-361 and 50-362  
Reply to a Notice of Violation  
San Onofre Nuclear Generating Station,  
Units 1, 2 and 3

Reference: Letter, Mr. Roy P. Zimmerman (NRC) to Mr. Kenneth P. Baskin (SCE),  
dated May 5, 1989

The Reference forwarded NRC Inspection Report Nos. 50-206/89-09, 50-361/89-09  
and 50-362/89-09 and a Notice of Violation resulting from the routine  
unannounced inspection conducted by Messrs. J. F. Melfi and F. S. Gee during  
the period of March 6 through March 10 and April 3 through April 7, 1989. In  
accordance with 10 CFR 2.201, the enclosure to this letter provides the  
Southern California Edison (SCE) reply to the subject Notice of Violation.

If you require any additional information, please so advise.

Very truly yours,

*Kenneth P. Baskin*

Enclosure

cc: J. B. Martin, Regional Administrator, NRC Region V  
F. R. Huey, NRC Senior Resident Inspector, San Onofre Units 1, 2 and 3

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ENCLOSURE

REPLY TO A NOTICE OF VIOLATION

Appendix A to Mr. R. P. Zimmerman's letter, dated May 5, 1989, states in part:

"A. 10 CFR 50.59(a)(1) states in part that: 'The holder of a license authorizing operation of a production or utilization facility may (1) make changes in the facility as described in the safety analysis report...., without prior commission approval, unless the proposed change, test or experiment involves a change in the technical specifications incorporated in the license...'

"The Updated Final Safety Analysis Report (UFSAR), section 7.2.1.2.2 states in part that the intermediate range high Startup Rate (SUR) 'trip is active during reactor startup and blocked above 10% power.' Consistent with this statement, technical specification 3.5.1 of the license states that the intermediate range trip is to be operable in mode 1 (below 10% power) and in mode 2. Table 1.2 of the technical specifications states startup as mode 2, with a Reactivity Condition  $\geq 0.99 K_{\text{eff}}$ , Thermal Power  $\leq 5\%$ , and an Average Coolant Temperature  $\geq 350$  degrees F. These technical specifications were included into the license with technical specification amendment 117, issued December 13, 1988.

"The NRR Safety Evaluation with Amendment 117 states that the range of the intermediate range is 1 E-7% to 200% power. Neither the UFSAR nor the Amendment describes any blocking function on the intermediate range SUR trip below 10% power.

"Contrary to the above, in March, 1989, the intermediate range reactor trip was changed so that the trip function is blocked below 1 E-4% power, and a technical specification change was not requested.

"This is a Severity Level IV violation (Applicable to Unit 1)."

RESPONSE TO ITEM A

1. Reasons for the violation, if admitted.

SCE admits that in March 1989, the Intermediate Range reactor trip was changed so that the trip function is blocked below 1 E-4% power, and a technical specification change was not requested. Although no

credit is taken in the accident analyses for the Intermediate Range High Startup Rate (SUR) Trip, a change to the technical specification was submitted to NRR, at the direction of Region V, on April 11, 1989 (Proposed Change Number [PCN]-208).

During the Cycle X refueling outage for Unit 1, a new nuclear instrumentation system (NIS) was installed. This work was performed under Design Change Package (DCP) No. 1-3003. In accordance with procedure E&C 24-10-16, DCP No. 1-3003 was reviewed and appropriate changes to the Technical Specifications were submitted (PCN-180).

During performance verification testing of the NIS, significant noise interference was observed when certain pieces of equipment were operating. Specifically, the NIS Intermediate Range High SUR Trip spuriously actuated when certain electrical devices were operated. In accordance with procedure S0123-XV-5.0, "Nonconforming Material, Parts, or Components", a Nonconformance Report (NCR) No. S01-P-7112 was issued on March 10, 1989, to document the spurious actuations.

The evaluation of NCR S01-P-7112 concluded that the new NIS system's Intermediate Range was so large (in actuality it also encompasses the full Startup and Power Ranges) it was susceptible to noise interferences at the low end of its range. The NCR disposition to fix the spurious actuations, was to modify the NIS system by installing a trip-block to the High SUR Trip below 1 E-4% power. This modification was effective in eliminating the spurious actuations.

In accordance with procedure S0123-XV-5.0, a safety evaluation was performed as part of the NCR. The safety evaluation review established that no credit is taken for the NIS High SUR Trip in the accident analyses. Therefore, the NCR concluded that there was: (a) no increase in the probability of occurrence of an accident or malfunction previously evaluated in the UFSAR; (b) no increase in the consequences of an accident or malfunction previously evaluated in the UFSAR; (c) no creation of a different type of accident or malfunction than any previously evaluated in the UFSAR; and (d) no reduction in the margin of safety as defined in the bases of the Technical Specifications. Therefore, the NCR correctly concluded that there was no impact on safety from installation of the trip-block.

To effect the physical modification to the Intermediate Range High SUR Trip circuit, a Field Interim Design Change Notice (FIDCN) was prepared in accordance with procedure E&C 24-10-17. Procedure E&C 24-10-17, Section II, Step 2 states in part: "If field changes meet the Exhibit I criteria, prepare an FIDCN... If field changes do not meet this criteria, initiate a revision to the DCP..." Exhibit I, Step 2, states in part: "... An FIDCN shall not be used for the following changes. These changes must be issued using a DCP or DCP

revision..." Step 2.F. continues "... Changes to instrument span/range, setpoints or computer software which are imposed by the UFSAR or Technical Specifications."

During the preparation of the FIDCN, Exhibit I was reviewed and it was concluded that the Intermediate Range span/range was not being changed (the High SUR Trip was being blocked while the Intermediate Range channel was not changed). Had Exhibit I.2.F included the instrument function, as described in the Technical Specifications, an FIDCN would not have been prepared.

Therefore, SCE has concluded that the lack of clarity in procedure E&C 24-10-17, misled reviewers in whether a DCP revision was required. Had a revision to the DCP been prepared, wider interdisciplinary review would have been provided and a formal documented assessment made as to whether the modification necessitated a change to the Technical Specifications.

Notwithstanding that an FIDCN was incorrectly issued in lieu of a DCP revision, informal consideration was given by management personnel to initiating a Technical Specification change. When reviewing Technical Specification Table 3.5.1-1, it was concluded that since no credit is taken for the trip feature for plant protection and because the system would retain the capability to provide its function for design basis events, a change to the Technical Specification would not be considered necessary.

The final analysis regarding whether a Technical Specification change was required concluded that if a Technical Specification change was to be submitted, it would be administrative in nature. As such, it was SCE's intention to resolve this item during a future submittal of administrative Technical Specification corrections.

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

At the direction of Region V, an emergency Technical Specification amendment request (PCN-208) was submitted to NRR on April 11, 1989, which added a footnote to Table 3.5.1-1 in the Technical Specifications to indicate the Intermediate Range High SUR Trip is not available for all of Mode 2 but only above 1 E-4% power.

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

By August 1, 1989, procedure E&C 24-10-17 will be revised to provide enhanced guidance on FIDCN/DCP usage.

In addition, to ensure that management personnel understand the importance of not only complying with the Technical Specifications but also for the Technical Specifications to be an accurate reflection of plant design, a letter will be written by the Manager

of Nuclear Licensing for all NGS and NES&L Engineering Supervision personnel. The letter will emphasize that if any changes to equipment discussed in the Technical Specifications are made during plant modifications, a Technical Specification change cannot be discounted based on the fact that the change has no safety significance.

4. Date when full compliance will be achieved.

Full compliance was achieved on May 16, 1989, when Technical Specification Amendment 126 was approved by NRR.

Appendix A to Mr. R. P. Zimmerman's letter, dated May 5, 1989, states in part:

"B. 10 CFR 50, Appendix B, Criterion V, states in part:  
'Activities affecting quality shall be prescribed by documented instruction, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings....'

"1. Administrative Procedure S0123-VI-23, 'Implementation of Site Housekeeping and Cleanliness Controls,' sets forth the following requirements:

'6.4 Cleanliness and Protection of Facilities, Materials, and Equipment

'To ensure the cleanliness and protection of facilities, materials, and equipment, each individual shall cleanup after themselves in a timely manner such that quality is not affected and conditions do not degrade....'

'6.4.1.1.1 Large quantities of trash, debris, supplies, materials, and any unused equipment shall not be allowed to accumulate at any work site or create conditions that would adversely affect the quality of work....'

'Maintenance Procedure S0123-I-1.20, 'Seismic Controls During Maintenance, Testing, and Inspections,' sets forth the following requirement:

'6.10.2 Leftover material shall be removed at the completion of the job.'

"Contrary to the above, on April 6, 1989:

"The following materials were in three control room instrument panel cabinets, 3CR50/3CR51, 3CR52, and 3CR56:

1. Several tie wraps.
2. Spray can cap.
3. Painted metallic safety light cover with partially chipped bare metal surface exposed.

"The following materials were in the Unit 3 remote shutdown panel:

1. A half inch thick 8.5" by 11" paper pad.
2. Spare resistor.
3. Non-metallic washers.
4. Chipped terminal block cover plate.

"The following materials were in the Unit 2 remote shutdown panel:

1. Unmounted embossed labels.
2. Light bulbs.
3. A string of non-metallic washers.

- "2. Southern California Edison Maintenance Procedure S0123-I-4.59, 'Wire and Cable Termination,' sets forth the following requirement:

'6.5.3 An abandoned pull rope should be fully inserted into the conduit and the conduit ends capped or closed by suitable putty.'

"Contrary to the above: On April 6, 1989, a pull rope was found extending beyond the end of the conduit at the top of and in the Unit 3 remote shutdown panel, wrapped around an unterminated coiled cable, and tied to the side of the panel. The conduit end was neither capped nor closed by putty.

"This is a Severity Level IV Violation (Applicable to Units 2 and 3)".

#### RESPONSE TO ITEM B

1. Reasons for the violation, if admitted.

SCE admits that the items listed above were found in the control room and remote shutdown cabinets.

SCE admits that the pull rope listed above extended beyond the conduit in the Unit 3 remote shutdown cabinet. However, there is no safety significance associated with this condition.

### Cabinet Material-Condition Inspections

As a result of a previous Notice of Violation issued July 19, 1988, for failure to follow separation criteria specified in SONGS Construction Specification, CS-E03, Revision 17, entitled "Safety Related and Non-Safety Related Electrical Construction Specification for Cable Splicing, Termination and Supports, SCE committed to inspect the material conditions of electrical cabinets in the letter from Mr. Kenneth P. Baskin (SCE) to NRC Document Control Desk, dated August 28, 1989:

"... The remainder of the Unit 2 panels containing redundant trains will be inspected for compliance with CS-E03 during the next outage of sufficient duration (when the risk of an inadvertent plant transient/trip does not exist). This delay in completing the Unit 2 inspection is justified based on the absence of safety-significant findings in the inspections performed on Unit 2 to date and in the complete inspection of Unit 3."

Accordingly, SCE scheduled Unit 2 cabinet inspections for the Cycle V Outage, which is anticipated to begin in the Fall 1989. SCE reiterates the aforementioned commitment that during the Cycle V outage the Unit 2 cabinets will be opened, examined for cable separation, and appropriately groomed and cleaned.

As stated above, the Unit 3 cabinets were inspected during the last outage and were groomed and cleaned to an acceptable standard at that time. An investigation into the listed conditions was unable to identify the specific individual(s) responsible for leaving the debris found in the Unit 3 cabinets.

SCE has concluded the referenced minor amounts of debris in the Unit 3 cabinets were apparently inadvertently overlooked during the cleanup or occurred during subsequent activities.

### Inspection of Pull Ropes

During the initial construction of Units 2 and 3, SCE followed the established, industry practice of abandoning pull ropes after installing conduit wiring. Because the ropes are non-conducting, construction procedures did not require the removal of pull rope ends and there may be other instances of abandoned pull ropes with exposed ends.

In January 1988, SCE issued TCN 0-21, to procedure S0123-I-4.59, to include the referenced step 6.5.3. The purpose of this procedure step was to establish a mechanism by which, over

time as routine maintenance activities were performed, the pull ropes might be groomed. However, the procedure intentionally used "should" to indicate that this is a suggested, and not mandatory, practice.

### Material Condition Goals

It is the goal of the referenced SCE procedures to keep material conditions clean and neat. SCE procedures go beyond both ANSI N45.2.3 and NRC Regulatory Guide 1.39 which only specify that housekeeping conditions shall not deteriorate to the point that housekeeping deficiencies have an impact on safety related equipment.

Specifically, SCE has voluntarily elected to use "shall" in procedures S0123-VI-23 and S0123-I-1.20, because it is difficult to provide concise procedural guidance to workers on when and how to use judgement as to when material conditions deteriorate to the extent that safety-related equipment is impacted. As previously stated, procedure S0123-I-4.59 intentionally used "should" to denote that the grooming of pull rope ends is not mandatory.

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

The referenced debris found in the cabinets was removed by May 5, 1989.

SCE has initiated programmatic enhancements to require that as work is performed in electrical cabinets, a "final check", which includes a review for cleanliness, is performed by the supervisor responsible for the work activity. SCE believes that as the electrical cabinets are opened for work under the "final check" program, that material conditions will improve.

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

To enhance the aforementioned "final check" program, a review of which cabinets are locked will be conducted. As appropriate, additions to the number of locked cabinets may be made.

The referenced exposed pull rope end will be removed during the next scheduled cabinet work.

4. Date when full compliance will be achieved.

By May 5, 1989, the identified debris was removed.