

*Southern California Edison Company*

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VICE PRESIDENT

October 27, 1989

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Mr. Jesse Crews, Senior Reactor Engineer  
U. S. Nuclear Regulatory Commission, Region V  
1450 Maria Lane, Suite 210  
Walnut Creek, California 94596-5368

Dear Mr. Crews:

**Subject: Docket Nos. 50-206, 50-361 and 50-362**  
**Revisions to Edison Program for Root-Cause Determination**  
**San Onofre Nuclear Generating Station**

During the week of August 28, 1989, we discussed at the San Onofre Nuclear Generating Station the need for Edison to review, and to upgrade as necessary, its program for the determination of the root-causes of events and conditions which are potentially adverse to quality and safety. This need has also been discussed in prior NRC correspondence with Edison.

The purpose of this letter is to summarize the results of our review and to describe revisions to our program which will be implemented to enhance its effectiveness.

BACKGROUND

Criterion XVI of 10CFR50, Appendix B, requires that the causes of significant conditions adverse to quality be determined and corrective action taken to preclude repetition. 10CFR2 and 10CFR50.73 contain similar requirements related to responses to Notices of Violation (NOVs) and submittal of Licensee Event Reports (LERs), respectively. The Technical Specifications include the requirement for the Independent Safety Engineering Group (ISEG) to make detailed recommendations for improving plant safety, which often involves the determination of the root-cause for significant conditions adverse to quality. Finally, Edison's management policies emphasize the need for responsible managers to identify and correct conditions which could adversely affect safety or quality of service.

Accordingly, in response to the numerous origins of the need for root-cause determination, Edison has evolved at San Onofre a number of formalized programs and procedures, each of which produce such determinations. Several organizations are involved, including the following:

1. Cognizant Station and Offsite Divisions which perform event analyses that incorporate root-cause determinations in connection with their respective incident investigation procedures. Often this is done as input to other processes, such as the development of LERs.

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2. The Station Technical Division which develops LERs as well as Station Incident Reports (SIRs) that normally expand somewhat on the information contained in LERs.
3. The ISEG which conducts independent safety evaluations and approves Nonconformance Reports prepared by Station Technical that determine the root-causes of material deficiencies.
4. The Nuclear Licensing Division which develops responses to NOV's and other NRC submittals.
5. The Site Support Services Division which uses data from the Nuclear Plant Reliability Data System, and other information developed at San Onofre and elsewhere, to identify hardware-related problems and trends, and their associated root-causes.

The Nuclear Oversight Organization within the Nuclear Engineering, Safety and Licensing Department (NES&L) includes ISEG. It also provides, through its QA functions, overview of root-cause determination programs and procedures within both the NES&L and the Nuclear Generation Site Departments. Also, it evaluates data trends itself in an effort to identify conditions adverse to quality and their cause. However, there is not currently any centralized program responsibility and overview to ensure consistent and high quality determinations of root-cause.

#### DISCUSSION

##### The Need for Cognizant Organizations to Retain Responsibility

As you suggested, we have reviewed both our own experience and the changes made in the area of root-cause determination at other nuclear facilities. One conclusion from this review is paramount from our viewpoint and will remain a principle in making the subject revisions. It is that:

It is essential for root-cause determinations to be made, at least in the first instance, by the organization which will be responsible for carrying out the corrective action to preclude recurrence, whenever possible.

We believe that the accuracy of the root-cause determinations, and the effectiveness of the corrective action taken, are seriously degraded when they are initially identified by a staff organization which is not responsible for the activities affected. However, we also recognize that many conditions adverse to quality transcend the area of responsibility of a single organization and may require an independent evaluation. In these cases, it is usually necessary to elevate the initial responsibility for root-cause determination to a higher level in the hierarchy and to use dedicated staff resources.

### The Need to Formalize an Overall Program

Because conditions adverse to quality often transcend the responsibility of a single organization as discussed above, and because the process of determination may require methodologies and skills of analysis which involve specialization, Edison will proceed to formalize its overall program and assign dedicated resources as necessary. Overall program responsibility will be assigned to the Manager of Oversight Engineering, a new position to be established within the Nuclear Oversight Organization. This manager will direct the efforts of the ISEG, the Nuclear Safety Group (NSG) and a Quality Engineering Group. (Like ISEG, the NSG performs independent technical reviews in accordance with requirements of the Technical Specifications.) These technical groups will continue to perform their existing functions and undertake to perform the root-cause determination program functions.

The program will be documented by an appropriate procedure. The procedure will include:

- o Recognition of existing programs and procedures, as summarized in 1 - 5 above. Visibility will be provided concerning who is responsible for specific issues and how they are being handled relative to other issues, both from a scope and a schedule viewpoint.
- o Responsibility of the Manager of Oversight Engineering to provide the methodology, training and expert assistance, as required to support root-cause determinations by cognizant divisions.
- o Responsibility of the Manager of Oversight Engineering to initiate actions to determine root-cause in those circumstances where conditions adverse to quality transcend the responsibilities of a single organization which can undertake the determination itself. These actions may be to establish an ad hoc task force with participants from the several organizations involved, or to undertake an evaluation using his regularly assigned resources.
- o Responsibility of the Manager of Oversight Engineering to undertake evaluations to identify conditions adverse to quality which may not otherwise be recognized. This will involve reassessment of the sources and use of equipment failure data, operating event statistics, etc.
- o Responsibility of the Manager of Oversight Engineering for oversight of root-cause determinations conducted by others. (This simply focuses the responsibility which already exists within the Nuclear Oversight Organization.)

October 27, 1989

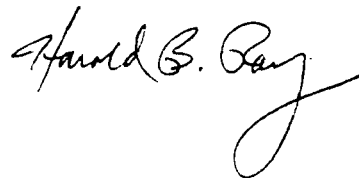
As the details of the program are developed, we expect certain changes in existing programs and procedures will be made. For example, the SIRs discussed in 2 above are largely redundant to the LERs, as they are now formatted and submitted to the NRC. Therefore, we anticipate that SIRs will be discontinued, and they will be superceded as necessary by a new evaluation tool that limits itself to issues not addressed in the LERs.

Schedule for Implementation

We believe that a period of six months will be required to develop the necessary details and fully implement the action described above. We will commence the necessary effort immediately following completion of the ongoing Unit 2 refueling outage.

If you have any questions or comments, or if you would like additional information at this time, please let me know.

Sincerely,



cc: J. B. Martin, Regional Administrator, Region V  
C. Caldwell, NRC Senior Resident Inspector, San Onofre