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May 12, 1986

U.S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement  
Region V  
1450 Maria Lane, Suite 210  
Walnut Creek, California 94596-5368

Attention: Mr. J. B. Martin, Regional Administrator

Dear Sir:

Subject: NRC Inspection Report Nos. 50-206/86-01  
50-361/86-01 and 50-362/86-01 - Emergency Preparedness  
Inspection  
San Onofre Nuclear Generating Station, Units 1, 2 and 3

Mr. F. A. Wenslawski's letter of March 21, 1986, transmitted the subject report of an inspection conducted by Ms. G. M. Temple of your office during the periods January 6-10 and February 3-7, 1986. The letter and the report note that the inspector's findings regarding implementation of enhanced plant evacuation warning systems are perceived by NRC to be indicative of "a breakdown in communications between various SCE organizations and a lack of attention to detail." Reference is made to a Notice of Violation issued in January 1985, on a totally unrelated issue, and statements are made that the current findings are very similar in nature to the situation that resulted in the January 1985 citation.

This perception by the inspector may have been due to our failure to ensure that the inspector interfaced with the appropriate people during the inspection, resulting in a misunderstanding of the facts and circumstances regarding this program.

We have reviewed the history and status of our program for enhancing plant evacuation warning systems and the enclosure to this letter provides you with additional information intended to resolve the concerns raised in the subject inspection report.

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Mr. J. B. Martin

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If you require any additional information, please so advise.

Sincerely,

*H E Morgan*

Enclosure

cc: F. R. Huey (USNRC Senior Resident Inspector)

## ENCLOSURE I

### Facts and Circumstances Regarding SCE Action to Enhance Evacuation Warning Systems at San Onofre Units 1, 2 and 3

#### Background

On August 7, 1979, the NRC issued IE Bulletin 79-18 to all Operating Reactors, requesting each facility to: review the adequacy of their existing personnel evacuation system in high noise areas; determine if hardware modifications (i.e., visual alarms) were appropriate; implement compensatory measures where hardware modifications were not appropriate or until such time as hardware modifications could be implemented; and inform the NRC of the status of the aforementioned activities/schedules. For facilities under construction, as SONGS Units 2 and 3 were at that time, the Bulletin was provided for information only, and no response was required.

As stated in the Bulletin, the determination of whether existing alarm systems and evacuation announcements in high noise areas are adequate must be made with the maximum anticipated noise level present. To establish such plant conditions, the unit must not only be at full power, but auxiliary system components not normally in operation, that could conceivably be in operation at the time of such warnings, must be placed in operation to accurately evaluate the noise levels in localized areas.

At San Onofre Unit 1, extensive testing was conducted in September 1979, July 1981 and March 1983 to determine areas of alarm and evacuation announcement inaudibility. Modifications required to improve audibility are very expensive, and as noted above, the degree of audibility can only be determined with plant equipment in full operation. Therefore, changes were first made and then testing was completed which led to further changes. Final modifications were completed in August 1984, prior to Unit 1 return to service from the extended outage.

Insofar as Units 2 and 3 did not enter commercial operation until 1983 and 1984 respectively, opportunities to evaluate noise levels and implement modifications to enhance the system for evacuation warning in accordance with the "max noise level" criteria established by the Bulletin, were limited prior to that time.

In December 1983, a noise survey was conducted at Unit 2 and Units 2/3 common areas and locations were identified where increased volume was required for the PA system. Ultimately, it was decided that flashing light visual devices should be installed in certain locations inside containment. Due to the lower post-accident radiation levels outside containment, it was not considered necessary to install these lights in the emergency diesel generator buildings, for example, as had been done at Unit 1.

## Enclosure I (continued)

Installation of these lights in the Unit 2 containment was completed in March 1985. Installation in the Unit 3 containment has been deferred to the second refueling. This was considered acceptable, since (unlike Unit 1) there is no known regulatory commitment to install such devices by any particular date.

Compensatory measures currently in place are considered adequate to satisfy the intent of IE Bulletin 79-18 for all three Units. The alternative utilized by SCE to the audible and visual warning devices required by the IE Bulletin continues to be an administrative accountability system, based on the use of the security computer. This system is based on the identification of missing persons following a post-evacuation accountability check. The location of the missing persons is identified by the security computer, and a search is subsequently conducted.

### INSPECTION REPORT STATEMENTS

In order to clarify some of the misunderstandings that may exist and resolve the concerns noted in the inspection report, the following are quoted excerpts from that report, with a discussion of the facts and circumstances associated with perceived areas of concern:

In regard to STROBE LIGHTS:

(1) Section 11, page 11, first paragraph of the report states...

"Based on the inspector's review of the documentation related to the matter and discussions with licensee personnel, it does not appear that these work activities for Units 2 and 3 have been adequately tracked in the past."

#### Discussion

The work activities for Units 2 and 3 have been adequately tracked. Since bulletin actions were not specifically imposed on Units 2 and 3, enhancements of installed systems on these units were considered to be a plant betterment item. The actions, therefore, were not afforded the expedited priority and continuous attention normally utilized in implementing commitments made to NRC. San Onofre desired to implement the same program on Units 2 and 3, as had been implemented at Unit 1. To ensure that personnel throughout the plant can either hear or see a warning under all plant operating conditions (i.e., not too loud when equipment is not operating and not too faint when equipment is operating), is a major undertaking. Such modifications at Unit 1 proved to be difficult, extensive and costly. Management has, however, maintained a conscientious involvement in the planning, evaluation, and implementation of such enhancements on Units 2 and 3.

Enclosure I (continued)

- (2) Section 11, page 11, second paragraph of the report states...

"Interviews with Station Emergency Preparedness and QA personnel, conducted during the first half of this inspection, revealed that neither of these departments was exactly sure of the current status of this work at Units 2 and 3. Since it appeared that the work...[installation of 19 strobe lights in the containment building]... had been completed for Unit 2, the inspector questioned whether workers had ever been informed of the meaning of these lights when activated and what to do in response to their activation. None of the individuals interviewed knew if the installed strobe lights were capable of activation. The inspector encouraged Emergency Preparedness personnel to issue instructions, regarding worker response to the strobes, if they were determined to be operable."

Discussion

Since the work had been completed at Unit 2, but it had not yet been completed at Unit 3, implementation of necessary training and procedure changes had been considered premature. It was intended to take these steps when the lights had been installed in both units.

Project members of the Site Nuclear Generation Services (NGS) Organization were "exactly sure of the current status of this work at Units 2 and 3." This group is responsible for its ultimate completion, including acceptance testing and eventual turnover to the Station for normal operation and maintenance. Although Emergency Preparedness and Quality Assurance personnel were aware of these ongoing enhancements, they are not necessarily expected to be aware and knowledgeable of the exact status of such activity.

- (3) Section 11, page 11, third paragraph of the report states...

"When the inspector returned to do the second half of the inspection, she was informed that Emergency Planning Bulletin No. 4-86 was issued (by the Station) on January 31, 1986, to inform personnel of the strobes and what to do in response to them. It should be noted that two HP personnel interviewed the second week said that they had not been aware that the strobes existed until the bulletin was issued. During a March 18, 1986, telephone conversation with the Manager, Station Emergency Preparedness, the inspector was informed that the strobe lights in the Unit 2 containment have been operational for approximately 8 or 9 months."

Discussion

SCE's program for modifying plant systems requires that upon completion and final acceptance of all work, applicable procedures shall be revised and implemented. It has been found that implementation of procedural modifications in this fashion minimizes confusion regarding system operation on the part of site personnel. Notwithstanding this practice, the inspector's request for notification of the site population regarding the function of the strobe lights and the appropriate response to their actuation had merit and was responded to in a timely fashion.

## Enclosure I (continued)

The same paragraph of the report goes on to state:

"The...[Manager of Station Emergency Preparedness]... also stated that there are no signs on the Unit 2 strobe lights that describe their purpose and/or worker response to their activation. He stated that the strobe lights in the Unit 1 containment building have this type of sign. With respect to Unit 3, it appears that three of the planned 19 strobes have been installed in the Unit 3 containment building.

"Pending final resolution of this matter, which includes the installation of all of the strobes planned for Unit 3, this issue will be tracked by the Region as an "unresolved" item."

### Discussion

The above inspection report statement is erroneous in that no strobe lights are installed in the Unit 1 containment building. The Manager, Emergency Preparedness was referring to the signs installed on strobe lights in the Unit 1 Turbine Building. The installation of such signs in the Units 2 and 3 containment buildings is still being evaluated.

We are confused by the use of the term "unresolved item," as used here. No basis for a potential item of non-compliance has been identified. SCE has expended extensive resources in addressing this generic NRC concern and will continue to pursue enhancements that will ensure the safety of plant personnel in the event plant evacuation is required, even though such enhancements were neither committed to, nor imposed by, the NRC.

In regard to PLANT SIRENS:

(1) Section 11, page 11, final paragraph states in part...

"In the past, activation of...[the plant siren at Units 2 and 3]... was automatic on SIAS. ... The...[identified design changes for Units 2 and 3]... involved cutting the circuitry so that activation of the...[plant siren]... becomes exclusively manual. Further investigation revealed the status of this work was also in question. It appears that work may have been completed for Units 2 and 3, but maybe not for Unit 1. However, at one point during this inspection, Emergency Preparedness personnel stated that activation of the siren had been made exclusively manual."

### Discussion

Because of the higher post-accident radiation levels at Unit 1, the siren continues to be automatically activated on SIAS at Unit 1, and there is no present intention for that to be changed. The design changes implemented that made actuation exclusively manual were applicable only to Units 2 and 3, and this was discussed with the NRC inspector and documented in the inspection report. The individuals who interfaced with the inspector in this regard believed they understood the operation of

Enclosure I (continued)

the system and, hence, did not independently confirm their understanding as they should have. These personnel have been re-instructed regarding automatic actuation of the Siren at Unit 1.

The same paragraph goes on to state on page 12:

"The inspector reviewed current training material handouts and...[procedures applicable to all three units].... This review disclosed that all of these documents still state that the siren can still be activated automatically. During the Shift Superintendent interviews, the inspector questioned their knowledge of this subject. Of the two Unit 1 Shift Superintendents interviewed, one was confused because he knew that...[one of the procedures]... still referred to automatic activation on SIAS. Pending final resolution of this matter, which includes a determination of current status, informing all affected personnel of the status and correcting all affected procedures and training lesson plans, this matter will be tracked by the Region as an 'open' item."

Discussion

It should be noted that the basis of the informal interviews conducted was the ability of individuals to recall information, without reference to design disclosure documents. The procedure being referred to by the inspector in the interview applied to all three units, and therefore activation of the plant siren on SIAS was an "if" statement; i.e., in addition to providing instructions for manual actuation of the sirens, the procedure also provided instructions on what to do should the sirens be automatically actuated.

The procedure can be made clearer by separately stating what will happen at Unit 1 and at Units 2 and 3, relative to automatic actuation of the plant siren on SIAS. This procedure is in the process of being revised. Also, training materials have been revised to make this distinction clear.

CONCLUSION

In the January 1985 NOV concerning Emergency Preparedness, facility changes had been completed which affected the Emergency Plan without appropriate changes having been made in the plan or its implementing procedures. This was not the case in the situation described in the March 21, 1986, inspection report. To the contrary, work had not been completed to the point where changes to Emergency Plan and implementing procedures were required. The incomplete status of this work was deliberate, and not a result of a breakdown in communication or a lack of attention to detail, and is, in no way, similar to the January 1985 event.