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SUBJECT: Forwards addl info re fire hazards analysis evaluation, per NRC 890406 request.

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June 2, 1989

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

Gentlemen:

Subject: Docket Nos. 50-361 and 50-362  
Response to Request for Additional Information on  
The Fire Hazards Analysis Evaluation (TAC Nos. 71043/4)  
San Onofre Nuclear Generating Station  
Units 2 and 3

By letter dated April 6, 1989, the NRC requested Southern California Edison to provide additional information regarding the Fire Hazards Analysis Evaluation for San Onofre Units 2 and 3. The purpose of this letter is to transmit the requested information to the NRC (enclosed).

The NRC requested additional information regarding SCE's use of carpet in the control room, the Fire Area Boundary Seal Evaluation Program, clarification of Fire Area Boundary ratings and deviations and requested clarification of SCE's commitment to BTP CMEB 9.5-1. The responses to each of these questions is provided in detail in the enclosure to this letter.

If you have any questions, please contact me.

Very truly yours,

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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RESPONSE TO NRC RAI FIRE HAZARDS ANALYSIS EVALUATION  
SAN ONOFRE UNITS 2 AND 3

NRC Question 1:

Enclosure 1 discussion of Attachment 1 item 1.d(1) states that testing of the radio communications system is not documented; however, tests are performed in accordance with FCC and/or industry practice. Please explain what tests are referred to and if not documented, how you ensure their performance and therefore the adequate operation of the radio system.

SCE Response:

The following testing is performed in accordance with manufacturer's specifications and 47 CFR (Telecommunications):

1. Annually - Telecommunication performs FCC tests on all base stations.
2. Quarterly - Telecommunication inspects in-line amplifiers.
3. Daily - Fire Department checks their hand-held radios for the apparatus.
4. Shiftly - Security checks their hand-held radios.

Preventive maintenance and repairs are documented. These records are maintained per SCE procedures. Current FCC guidance does not require scheduled radio communication system testing. The testing of the UHF communication systems is not documented in formal station procedures. The radio communication system is in normal use and thus is continuously monitored. This continuous monitoring ensures that adequate performance is maintained.

NRC Question 2:

BTP CMEB 9.5-1, Section c.7.b, "Control Room Complex," states that there should be no carpeting in the control room. The Fire Hazards Analysis identifies control room carpeting in the combustible loading calculations but does not appear to present a discussion of why the carpeting is an acceptable deviation from staff guidelines. Please identify where the NRC has approved this deviation or provide adequate justification for its acceptance.

SCE Response:

Revision 3 and subsequent revisions of the Updated Fire Hazards Analysis, Section 7.0 (Detailed Fire Hazards Analysis for SONGS 2 and 3) identify the use of carpet in the control room. The carpet is considered a combustible material from the standpoint of determining the total combustible loading in the control room. The combustible loading in the control room considers all insitu combustibles and is within the maximum permissible fire loading for the barriers of the zone. In the SER issued June 29, 1988, the NRC approved Revision 3 of the UFHA in conjunction with our submittals on updated Appendix R analyses and other fire protection issues.

The carpet in the control room has a flame spread and fuel contribution of less than 25 and thus is in accordance with BTP 9.5-1, Appendix A, Section D.1.a(2)d. Accordingly, no deviation from NRC requirements has been requested by SCE. Refer to the response to RAI #5 regarding SCE's position on the applicability of BTP CMEB 9.5-1.

NRC Question 3:

The Fire Area Boundary Seal Evaluation Program provides information related to the internal sealing of conduits. The conduit sealing methodology described appears to deviate from the guidelines stated in BTP CMEB 9.5-1. Please provide information describing the deviation and appropriate justification of any differences.

SCE Response:

The designs used to seal conduits at SONGS 2 and 3 were described in the Fire Area Boundary Penetration Seal Evaluation Program Report submitted by SCE letter dated August 25, 1988. Appendix B of that report identifies the design details which pertain to conduit seals. The standard details which pertain to conduit seals are 3001-A, SE-1, SE-2 and capped conduits.

The majority of conduit seals at SONGS 2 and 3 utilize detail 3001-A. This detail specifies the use of a nine inch internal conduit silicone foam seal installed on one side of a penetrated barrier. The design does not require a seal to be provided in a room if a conduit run is continuous throughout the room (e.g., there is no access opening in the conduit such as a junction box or conduit). The design differs from the sealing configuration described in BTP CMEB 9.5-1 in that the seal is not required to be installed in the plane of the barrier nor on both sides of the barrier for conduits extending at least five feet on each side of the barrier.

Detail SE-1 has been used in some recent installations. This detail specifies the use of a 9 inch internal conduit seal at the barrier. The detail indicates that a portion of the seal is to be installed within the barrier, but there is no minimum portion of the seal that is required to be in the barrier. This design differs from the sealing configuration described in BTP CMEB 9.5-1 in that the seal is not required to be installed completely in the plane of the barrier.

Detail SE-2 has also been used in some recent installations. This detail specifies the use of two 9 inch internal conduit seals, one on each side of the penetrated barrier. This design conforms with the configuration described in BTP CMEB 9.5-1 with the exception that the conduit may not extend at least five feet on each side of the barrier.

Spare conduits may be sealed with threaded caps on both sides of the barrier. For cases where the conduit caps are not within the plane of the barrier, the detail differs from the configuration in BTP CMEB 9.5-1 in that the conduit may not extend at least five feet on each side of the barrier.

There are a small number of penetrations (approximately 50) in rated Appendix R barriers which do not have penetration seals. These conduits differ from the sealing configuration described in BTP CMEB 9.5-1 in that no seal is provided. The conduits are considered acceptable based on the tests referenced below.

The Fire Area Boundary Penetration Seal Evaluation Program Report, Appendix B provides the technical assessment of the internal conduit penetration seal configurations installed at SONGS 2 and 3. The justification for the seal configurations is based on ASTM E-119 fire tests performed for conduits which were unsealed. These tests demonstrated that fire will not propagate through unsealed conduits 4 inches and less in diameter to the cold side of the barrier. Information on the tests and the assessment of the test results is provided in Appendices B and D of the Fire Area Boundary Penetration Seal Evaluation Program Report. A fire test of a conduit sealed with threaded caps was successfully passed as discussed in Appendix B of the Fire Area Boundary Penetration Seal Evaluation Program Report.

Refer to the response to RAI #5 regarding SCE's position on the applicability of BTP CMEB 9.5-1.

NRC Question 4:

The 10 CFR 50 Appendix R Comparison Table states that NRC concurrence for deviations is identified. It does not appear that specific reference to NRC concurrence such as SER dates is included on the table. Please clarify the statement or information on the table.

SCE Response:

This information will be clarified in the next update of the UFHA currently scheduled for February 15, 1990.

NRC Question 5:

The Licensee should identify any additional deviations from the guidelines of BTP/CMEB 9.5-1 which have not been previously evaluated and approved by the Staff or are not mentioned in this RAI.

SCE Response:

During previous discussions with the NRC staff regarding compliance with BTP CMEB 9.5-1, the NRC agreed that if an assessment of the San Onofre Units 2 and 3 fire protection program was determined to be necessary, the NRC would perform this assessment. Based on this previous agreement, SCE has not performed an assessment of the San Onofre Units 2 and 3 fire protection program with the requirements of BTP CMEB 9.5-1. The NRC's SER dated June 29, 1988 for Revision 1 to the Updated Fire Hazards Analysis for San Onofre Units 2 and 3 reflected this agreement by stating that:

"while this issue remains unresolved, the staff would evaluate any additional deviations in a future safety evaluation."

SCE is currently awaiting this SER.

NRC Question 6:

In reviewing the 81-12 concern, it was identified that the licensee indicated shutdown cooling system valve HV-9337 is in series with valve HV-9338; however, the Updated FSAR Figures 6.3-2, 6.3-3 and 6.3-4 show HV-9337 is in series with HV-9339. Please indicate if this is simply a typographical error and if any documents need to be revised.

SCE Response:

Shutdown cooling valve HV-9337 is in series with valve HV-9339, as shown in Updated FSAR Figures 6.3-2, 6.3-3 and 6.3-4. The indication that HV-9337 is in series with HV-9338 in Enclosure 4 to SCE's August 25, 1988 letter was a typographical error. No documents need to be revised.

CEW:1/nrcfha