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 CRUTCHFIELD, D. Operating Reactors Branch 5

SUBJECT: Informs that evaluation of low & medium voltage & dc penetrations will be provided by 811221, per util continuing attempt to respond adequately to SEP Topic VIII-4, "Electrical Penetrations of Reactor Containment."

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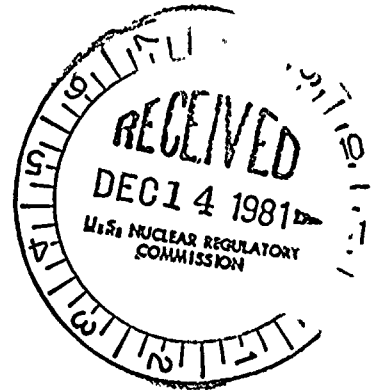
*Southern California Edison Company*

**SCE**

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December 10, 1981

Director of Nuclear Reactor Regulation  
Attention: D. M. Crutchfield, Chief  
Operating Reactors Branch No. 5  
Division of Licensing  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555



Gentlemen:

Subject: Docket No. 50-206  
SEP Topic VIII-4  
San Onofre Nuclear Generating Station  
Unit 1

By letter dated March 2, 1981 you transmitted to us the technical evaluation report for SEP Topic VIII-4, Electrical Penetrations of Reactor Containment. That report, prepared by NRC contractor personnel, evaluated the San Onofre Unit 1 electrical penetrations against current day criteria. The capability of the penetrations to withstand the peak LOCA temperature concurrent with a short circuit current and failure of the primary overcurrent protection device was assessed. The results of the report indicated that the DC penetration and the low voltage penetration do not meet the current requirements. The medium voltage penetration was acceptable utilizing a specific configuration.

Our comments on the technical evaluation report were provided to you by letter dated June 17, 1981. These comments identified discrepancies in the evaluation performed. These discrepancies included identifying the appropriate seal rating on the low voltage penetration, identifying additional conductors utilized in the medium voltage penetrations and an explanation of the operation of the breakers utilized as overcurrent protection devices.

Subsequently you issued a letter dated June 30, 1981 which expressed a concern regarding the significant number of comments on the initial conditions and methodology of the evaluation. You also pointed out that the NRC's evaluation did not indicate the penetrations in general at SEP plants were acceptable to current criteria; however, you indicated that this did not mean they were inadequate. Therefore, you requested that the SEP utilities evaluate the adequacy of their penetrations. By letter dated August 14, 1981, we indicated that our evaluation would be provided to you by September 18, 1981.

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In addition to this correspondence we were also involved in telephone discussions with members of your staff and EG&G. Information which would be input into our evaluation was requested, specifically the thermal rating of the low voltage penetration seal material. During the process of obtaining that information, it was determined that the seal material on the low voltage penetrations was not the expected silicone material. The seal material on the low voltage penetration is ethylene propylene rubber (EPR). Therefore it is necessary to reevaluate the low voltage penetration utilizing a temperature rating for EPR. Based on discussions with the penetration manufacturer this EPR material does not have a thermal rating but has been tested to temperatures of 400°F for one hour. The tests included the entire penetration assembly. This information has been provided to EG&G in several telephone discussions and a transmittal.

The evaluation of the low voltage penetration should be completed and transmitted to you by December 21, 1981. The evaluations of the medium voltage and DC penetrations have been completed and will be provided to you at that time.

If you have any questions regarding this matter please let me know.

Very truly yours



R. W. Krieger  
Supervising Engineer,  
San Onofre Unit 1 Licensing