Southern California Edison Company

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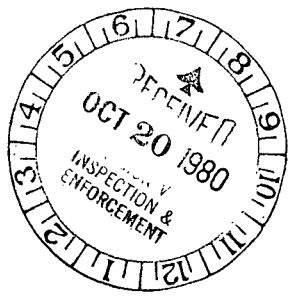
October 10, 1980



U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region V
1990 North California Boulevard
Suite 202, Walnut Creek Plaza
Walnut Creek, California 94596

Attention: Mr. R. H. Engelken, Director

Dear Sir:

Subject: Docket No. 50-206
San Onofre Nuclear Generating Station
Unit 1

Reference: Letter dated September 18, 1980 from SCE (J. M. Curran) to NRC (R. H. Engelken)

The referenced letter provided prompt notification of a potential design problem with indicating push button switches installed on San Onofre Unit 1 containment isolation panels. This letter provides a written followup in accordance with the provisions of Section 6.9.2.b of Appendix A to our provisional operating license DPR-13. On October 7, 1980, we advised Mr. D. Sternberg of your staff that we were finalizing the information contained herein and that submittal of the follow-up report would be delayed until October 10, 1980.

The referenced letter indicated that there were two problems with the indicating switches which made it possible to cause a short circuit or an inadvertent actuation of the control circuit during relamping. The details of these problems are provided below.

1. The design of indicating push button switches is such that during insertion of the lamp assembly into the switch housing, shorting could occur between the metallic plunger and the energized indicator lamp connection inside the switch assembly. Since the metal plunger is connected to the cabinet ground through the switch housing, the control circuit could be short circuited, causing failure of the control circuit if it is energized.

2. The design of the lamp assembly is such that to lock the switch into place after relamping will cause actuation of the switch resulting in operation of the control circuit if it is energized. Since the current containment isolation system operational design requires that the power supply to the containment isolation panels remain energized during relamping, the potential exists for operating containment isolation valves during the lamp replacement.

In cooperation with the Honeywell Company, manufacturer of the micro switches, the following corrective actions have been implemented:

1. The metallic plunger is being redesigned to solve the short circuit problem discussed in Item 1 above. The design modification involves providing a plastic tip on the plunger. The plastic tip will provide isolation between the metallic plunger and energized indicator lamp connection inside the switch assembly and this will avoid short circuit problems. A prototype modified switch assembly was received on September 20, 1980 and successfully tested. Accordingly, the manufacturer is developing the necessary tooling for production purposes. It is expected that the modified switch assemblies can be delivered and installed prior to return to power operation from the current outage.

2. The indicating push button lamp assembly system is being redesigned to solve the switch actuation problem discussed in Item 2 above. The design modification will permit relamping with the power supply energized, without causing switch actuation. It is expected that the system will be redesigned and the current switches replaced during the next scheduled cold shutdown of sufficient duration following return to power operation from the current outage.

As discussed in the referenced letter, station personnel have been instructed regarding the procedural steps that will be followed when changing burned out lamps. For completeness, the details of the procedural steps currently in effect are provided below:

1. Automatic Containment Isolation Valves on Non-essential Systems

   All automatic containment isolation valves are included in this category. When replacement of a burned out lamp is necessary, the power supply of the circuit of the valve will be opened and the associated valve will close if open or will be de-energized in the closed position if already closed. The burned out lamp will be replaced and the power supply to the circuit will be closed permitting the valve to be reopened or re-energized in the closed position.

2. Remote Manual Containment Isolation Valves on Essential Systems

   The systems in this category include the Chemical Volume and Control Letdown System, Reactor Coolant Pump Seal Water Return System, Turbine Plant Cooling Water Supply and Return System, and Pressurizer Relief Tank Nitrogen Supply System. The containment isolation valves on these systems are normally open during operation and may be required to be open during accident conditions.

   If it is necessary to replace burned out lamps after the metallic plunger has been redesigned as described in corrective action 1 above, the following steps will be taken:

   1. The touch plate with the burned out lamp will be removed and lamps replaced.

2. The glass cover on the HFA relay (panels behind north vertical board) associated with the valve in question will be removed and the relay held in place by depressing the insulated portion of the spring loaded relay plunger.

3. The touch plate with the replaced lamps will be inserted into the switch chassis.

4. The "open" switch of the valve in question will be depressed to assure that the circuit has been reset and the glass cover replaced on the HFA relay.

If it is necessary to replace burned out lamps before the metallic plunger is redesigned, the replacement will be performed during an outage of sufficient duration when the affected system and valve can be removed from service. At that time, the procedural steps to be followed are identical to those established for the automatic containment isolation valves on non-essential systems discussed above. Until such time as the lamp can be replaced, the position of the affected valve can be determined by examining the system flow, pressure and temperature process instrumentation.

Every effort will be made to replace the plungers and switch assemblies as soon as possible. However, the procedural steps discussed above are adequate to prevent any adverse effects during normal operation or following the proper operation of the containment isolation systems. The procedural steps will remain in effect until corrective actions 1 and 2 discussed above are completed.

Should you require additional information on this matter, please contact me.

Sincerely,

J. G. Haynes
Manager of Nuclear Operations

Attachment: Licensee Event Report 80-035

cc: Director, Office of Inspection and Enforcement (40)
Director, Office of Management Information & Program Control (3)
Director, Nuclear Safety Analysis Center
L. F. Miller (USNRC Resident Inspector)