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MEMORANDUM FOR: Carlyle Michelson, Director
Office for Analysis and Evaluation
of Operational Data

FROM: Eugene V. Imbro, Lead Engineer
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SUBJECT: ENGINEERING EVALUATION - POTENTIAL FOR FLOODING IN CONTROL ROOM AT SAN ONOFRE UNITS 2 AND 3

A routine screening of LER 82-07 at Unit 2 of the San Onofre Nuclear Generating Station indicated that additional information was necessary to make a valid engineering assessment. The concern with this event was initially perceived, due to the way the LER was written, to be the possibility of flooding the control room or adjacent vital instrumentation and other electronic equipment by actuation of the fire protection system. The LER stated that inadvertent actuation of a fire protection system caused flooding of the "control room area."

The event began when San Onofre operations and maintenance personnel, working on the 30 foot elevation floor of the Unit 2 Control Building, were isolating the water spray fire protection system serving the cable riser gallery. Due to a misunderstanding between personnel, a manual switch was disabled. This in turn actuated the water spray deluge valve. Since the manual block valve to the water spray deluge valve was in its normal open position, the water spray was initiated.

The manually operated block valve necessary to terminate the spray is within a stairwell at the 42 foot elevation. Since this valve was inaccessible to the personnel working at the 30 foot elevation of the Control Building because of a closed one-way security door into the stairwell, the water spray could not be promptly terminated.

The affected water spray system was isolated 15 minutes later by another operator, dispatched from the control room, who descended the stairwell from an entry point at the 70 foot elevation. During the period in which the fire protection system was in operation, water from the cable riser area entered the Unit 2 control room cabinet area through a local access door and reached 1/4" in depth in some places.

According to the LER, there was no electrical junction boxes or cable connection points within the affected area. No electrical grounds were observed as a result of the incident and no equipment operation was affected.

The San Onofre Unit 2 Resident Inspector, A.E. Chaffee, who was contacted by telephone on May 13, 1982 provided the following information:

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- The terminology used in the LER does not inform the reader that there are two specific regions within the "control room area": (1) the actual control room; and (2) the control room cabinet area. The flooding occurred in the control room cabinet area, immediately next to the cable riser gallery. The term "control room area" is used as a generalization for purposes of identifying the controlled access area of the 30 foot elevation in the Control Building.

- The control room cabinet area, as its name implies, contains electrical panels and cabinets some of which are necessary to actuate safety-related equipment. Each cabinet has a 1" - 1¼" lip for flood protection. As a result of this event the licensee is studying the necessity for additional curbing to protect the cabinets.

- The one-way security door could not be opened because there was no keyhole in the door to allow it to be opened from outside of the stairwell. This situation has been corrected. The licensee is reviewing the plant security system to determine if plant personnel accessibility is restricted to such an extent that corrective action to investigate minor plant events may be unnecessarily impaired.

- The inspector will include this event and the licensee actions in an Inspection Report.

Additionally, the attachment to the LER states, a design review of the floor drain system for plant areas served by wet fire protection systems will be performed to determine if sufficient draining capacity exists to prevent flooding of adjacent areas, and whether area curbs are required to limit general flooding. The possibility of adding alternate manual switches will also be examined to determine if additional switches should be installed to reduce the potential for accidental system operation.

The licensee's response to this event appears to be thorough and other than review the IE Inspection Report no further action is anticipated at this time.

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