



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

October 3, 1988

Docket No.: 50-206

Mr. Kenneth P. Baskin
Vice President
Southern California Edison Company
2244 Walnut Grove Avenue
Post Office Box 800
Rosemead, California 91770

Dear Mr. Baskin:

SUBJECT: SALT WATER COOLING RELIABILITY (SEP TOPIC IX-3, ITEM 4.32.7)
(TAC NO. 65149)

Re: San Onofre Nuclear Generating Station, Unit No. 1

By letter dated April 1, 1987, as supplemented July 22, 1988, Southern California Edison submitted a reliability study of the Salt Water Cooling System (SWCS) in response to a recommendation in NUREG-0829, "Integrated Plant Safety Assessment."

On the basis of our review of the licensee's submittals, we agree with the licensee that no actions are needed at this time to improve the reliability of the existing SWCS. Our reasonings are stated as follows:

- (1) The SWCS study indicates that electrical failures leading to a station blackout scenario are a dominant contributor to the SWCS unavailability, which is estimated to be about 3×10^{-5} . The licensee estimates that these electrical failures contribute about 88% to the SWCS unavailability. The SWCS consists of two full-capacity safety-related SWC pumps and another full-capacity non-safety-related auxiliary SWC pump. Hence, because of this redundancy in the SWCS, the SWCS component failures do not appear in the dominant cut sets. The results of the licensee's analysis do not identify any modifications to the SWCS for reducing the SWCS unavailability significantly.
- (2) During an event which also involves the loss of all SWCS pumps, the screen wash pumps or fire water pumps may be used as a backup to the SWCS pumps. For example, on March 10, 1980, SONGS-1 experienced a complete loss of SWCS flow for about 10 minutes. However, the screen wash pumps were used to provide cooling for the component cooling water heat exchanger before the auxiliary SWCS pump was restored to service. If the screen wash pumps fail, the fire water pumps also may be used since the pump performance specifications of the fire water pumps are similar to that of the screen wash pumps. Therefore, we conclude that if a complete loss of SWC occurs, the backup pumps can provide interim cooling and give operators more time for mitigative actions.

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- (3) Since the 1980 loss of SWCS event, SONGS-1 has taken corrective actions to improve the SWCS reliability. For example, to prevent the north SWC pump discharge valve from failing to open, the valve has been left in the normally open position. In addition, to prevent air from leaking into the Auxiliary SWC Pump Air Priming System, all places where air could leak into the system were resealed. We believe that the corrective actions taken are appropriate for improving the SWCS reliability.

Based on the above, we consider item 4.32.7, "Salt Water Cooling System Reliability" to be resolved. This action also completes SEP Topic IX-3, "Station Service and Cooling Water Systems," since item 4.32.7 was the only item not considered resolved when NUREG-0829 was issued in December 1986.

Sincerely,



Charles M. Trammell, Senior Project Manager
Project Directorate V
Division of Reactor Projects - III,
IV, V and Special Projects

cc: See next page

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Sincerely,

original signed by

Charles M. Trammell, Senior Project Manager
Project Directorate V
Division of Reactor Projects - III,
IV, V and Special Projects

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Mr. Kenneth P. Baskin
Southern California Edison Company

San Onofre Nuclear Generating
Station, Unit No. 1

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