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Southern California Edison Company

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March 24, 1980

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

Attention: Mr. R. H. Engelken, Director

Dear Sir:

Docket No. 50-206
San Onofre - Unit 1

This letter describes a reportable occurrence involving certain components in the salt water cooling system which are required to be operable under San Onofre Unit 1 Technical Specification 3.3.1. Submittal is in accordance with the reporting requirements of Technical Specification 6.9.2.a.

At 2115 hours on March 10, 1980 with the unit operating at 100 percent power and with the south salt water cooling pump (G-13B) in operation, salt water cooling pump low flow and low discharge pressure alarms were received on the main control room auxiliary board annunciator panel. Concurrently, the north salt water cooling pump (G-13A) automatically started due to low pressure in the discharge line of south pump G-13B and pump G-13B motor amperage was observed to be indicating low.

Operators were then dispatched to the salt water cooling pump area and reported that both pumps were running with discharge pressures of 0 and 40 psig indicated at the south (G-13B) and north (G-13A) pumps, respectively. The operators further reported that the pneumatically operated discharge valves (POV's 5 and 6) of each pump were in the closed position. Under the conditions observed, POV-5 (discharge of north pump G-13A) should have been open while POV-6 (discharge of south pump G-13B) should have been closed. Efforts were then initiated to open POV-5.

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At 2120 hours, the auxiliary salt water cooling pump, G-13C, was manually started from the control room. However, a low flow condition as indicated by low pump motor amperage was observed. Investigation of the auxiliary pump and piping system indicated that the low flow condition was due to apparent insufficient pump priming and the auxiliary pump was then stopped. In order to re-establish salt water cooling flow, the screen wash pumps were started from the local panel and valves manually aligned to discharge to the bottom component cooling water heat exchanger, E-20B, normally served by the north salt water pump, G-13A. At 2130 hours, salt water cooling flow to E-20B was observed to be about 2000 gpm and component cooling water temperature exiting E-20B was decreasing, having reached a peak value of 82°F.

At 2156 hours, adequate priming was restored to the auxiliary salt water pump, G-13C, and the pump was placed in service.

During the period described above, a limiting condition for operation of Technical Specification 3.3.1.A was not met. Consistent with the requirement of the specification that the reactor shall not be maintained critical unless the specified limiting conditions are met, preparations were made to commence an orderly shutdown of the unit. However, at 2200 hours with the auxiliary salt water pump restored to operation and consistent with the provision of Technical Specification 3.3.1.B, the unit shutdown was terminated after a slight load reduction and full power operation was resumed while maintenance efforts to open POV-5 continued. At 0005 hours on March 11, 1980, POV-5 was opened and the north salt water pump G-13A placed in service. At 0010 hours, with the north salt water pump and the auxiliary pump determined to be operable, the auxiliary pump was stopped and unit operation proceeded in accordance with the limiting conditions for operation of Technical Specification 3.3.1.A.

Throughout the above incident, adequate cooling was maintained to equipment normally served by the component cooling water system during power operation. The peak component cooling water heat exchanger exit temperature of 82°F was well below the alarm condition setpoint of 97°F. Temperatures of pump bearings cooled by the component cooling water system were monitored during the incident and no significant changes observed.

Investigations conducted to date have revealed that the south salt water cooling pump, G-13B, shaft failed due to apparent excessive vibration resulting from worn bearings. The pump shaft and bearings have since been repaired and the pump returned to service. The failure of POV-5 to open automatically and the problem of insufficient priming of auxiliary salt water pump G-13C are presently under investigation. Pending the results of these investigations and implementation of appropriate long term corrective actions to prevent recurrence, the following measures are being taken to assure availability of required salt water cooling: (1) POV-5 is being maintained open with the

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