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J. G. HAYNES
MANAGER OF NUCLEAR OPERATIONS

7/8/81

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

DOCKET No. 50-206
SAN ONOFRE - UNIT 1

Dear Sir:

Reference: Letter dated June 9, 1981 from SCE (J.M. Curran) to NRC
(R. H. Engelken)

The referenced letter provided prompt written notification to your office of growth of some form of saltwater arthropod on the saltwater discharge pipe of the component cooling water heat exchanger E-20A such that the cross-sectional diameter was effectively reduced. This caused low coolant flow and malfunction of the butterfly valve. Further, the growth of the arthropod had partially blocked the heat exchanger tubing. Submittal is in accordance with the reporting requirements stipulated in Section 6.9.2 of Appendix A to our Provisional Operating License DPR-13. In addition, a completed copy of Licensee Event Report No. 81-009 is enclosed.

The saltwater arthropod was identified as Pollicipes (Mitella) polymerus commonly known as the gooseneck barnacle. It is a common arthropod which has a high temperature tolerance, lives in the intertidal zone, likes turbulent water and is limited to caves and rocks with a water-air flow interface and dark environment.

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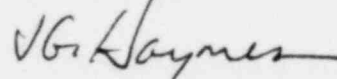
An inspection revealed that the gooseneck barnacles were present from the heat exchanger discharge tube sheet outward toward the sea water discharge piping. The heat exchanger inlet tube sheet was found to be free of the barnacles. The partially plugged heat exchanger tubes were cleaned by shooting abrasive balls through the tubes using high pressure air. The heat exchanger tube sheet area and discharge piping were manually cleaned beyond the butterfly valve.

This incident occurred because of the current protracted shutdown of San Onofre Unit 1 which has lasted over 14 months. This extended shutdown has meant that the saltwater cooling system has not been heat treated for over a year. The plant is currently making preparation for return to power, at which point heat treatment can be renewed to control the barnacle growth in the manner which has been typical of San Onofre operations in the past.

In order to kill 100 percent of the organisms, any one of the following temperature-time combinations would be necessary: 97°F for 3.6 hours, 101°F for 1.2 hours, or 105°F for 0.4 hours. Pollicipes is expected to be less tolerant than the Bay Mussel (Mitilus), for which the heat treatment procedure of SONGS 1 was designed to control. Therefore, conducting normal heat treatment at designated intervals will control Pollicipes. This is evidenced by the fact that the barnacle (Pollicipes) has not occurred in the past when SONGS 1 was in normal operation.

If you have any questions or desire additional information concerning this matter, please contact me.

Sincerely,



Attachments: Licensee Event Report 81-009

cc: L. F. Miller (NRC Resident Inspector)

Director, Office of Management Information & Program Control
Director, Nuclear Safety Analysis Center