



DEPARTMENT OF CHEMISTRY

IRVINE, CALIFORNIA 92717

July 8, 1983

U.S. Nuclear Regulatory Commission

Chief, Standardization and Special Projects Branch,

Division of Licensing,

Washington D.C. 20555

Re: Docket 50-326, License R-116

Incident Report for July 1, 1983

Reported under Tech. Specs: 6.7.c.3. (abnormal occurrence)

Gentlemen:

An abnormal event occurred July 1, 1983 at the UCI Nuclear Reactor Facility. During a series of step insertions to generate maximum power and temperature curves, the adjustable transient rod cylinder was withdrawn to a height corresponding to a \$2.00 insertion. At the upper limit of the cylinder's travel, the control rod began to withdraw. The reactor was critical at 1.5 watts and power increased to approximately 1.6 watts with a 20 second period. The reactor was immediately shut down. This incident was reported the same day to D. Sternberg of the NRC Region V Office.

Inspection of the cylinder's interior did not indicate a problem. Light oil was applied to the inside walls. This seemed to alleviate but not entirely eliminate the sticking of the piston during cylinder travel.

Another transient rod has experienced similar problems this past month. Both transient rods are serviced by the same air system, so suspecting the problem may be due to contamination, this system was dismantled.

Fine dirt had accumulated in the air trap since it was serviced during monthly maintenance. Some dirt had passed through the trap and filter and entered the buffer tanks which supply air to the rods at 80 psi. These

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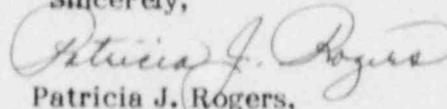
tanks, valves, traps and air hoses were removed and cleaned. The permanent filter in the air trap was cleaned of accumulated debris. Each transient rod was opened, cleaned thoroughly with solvent and lubricated.

Specifications by General Atomics, manufacturer for the TRIGA Reactor, call for clean, dry air to be used in the transient rod operation. While the air trap is cleaned monthly, the permanent filter attached to the system is not scheduled for regular maintenance. It is felt that it became overloaded and was no longer able to strain debris from the system. Regular maintenance of this item will most likely be added to our schedule.

When the system was reassembled each cylinder was tested thoroughly and no problems have since occurred. All rod drop times were in the normal range consistent with values obtained during tests over the last 2 years. Repairs to the rods and air system have been inspected and approved by the Acting Reactor Supervisor.

The Facility will continue to operate on a conservative basis in the steady state mode only until Dr. George Miller, Reactor Supervisor, returns in August. All pulsing operations will be delayed until repairs to the rod systems and air delivery systems have been inspected again and approved by the Reactor Supervisor. Inspection of the air system will be made frequently during this time to avoid any further problems.

Sincerely,



Patricia J. Rogers,

Acting Reactor Supervisor

cc: NRC Region V

W.Lillyman, The Vice Chancellor

V.P. Guinn, Chair, ROC

Member, ROC

G.E. Miller, Reactor Supervisor