September 9, 2003

THIS EVENT IS NOT FOR PUBLIC DISCLOSURE PER AGREEMENT STATE REQUEST UNTIL 09/11/03.

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE -- PNO-IV-03-040

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by the Region IV staff on this date.

Facility
Northridge Hospital
Van Nuys, CA
License No.: 0041
California Agreement State Licensee

Licensee Emergency Classification
___ Notification of Unusual Event
___ Alert
___ Site Area Emergency
___ General Emergency
_X_ Not Applicable

SUBJECT: HIGH DOSE RATE AFTERLOADER EQUIPMENT FAILURE

DESCRIPTION:

On September 8, 2003, the California Radiologic Health Branch (the Branch) notified NRC's Operations Center that a Nucleotron MicroSelectron High Dose Rate (HDR), Model Number 31324 (Serial Number D36A4476), had failed to retract upon completion of patient treatment.

Northridge Hospital, a California licensee, reported to the Branch on the morning of September 8, 2003, that a 4.6 curie (170.2 GBq) iridium-192 sealed source had failed to retract upon completion of patient treatment. After noting that the sealed source was stuck in the transfer tube, the physicist started his stopwatch, entered the room, and attempted to manually retract the source. Manual retraction of the sealed source failed. The physicist then called the physician, who was waiting outside the room. The physician then entered the room and disconnected the apparatus from the patient and dropped the transfer tube into a lead pig. Both the physicist and physician then moved the patient out of the room. The physicist stopped the stop watch and observed that 2 minutes had elapsed. The physicist then carefully surveyed the patient and obtained no measurement above background. The physicist re-entered the room, performed a radiation survey, and found a hot spot along the transfer tube that was shielded in the pig. The shielded pig measured 10 millirem/hr at 3 feet (0.1 mSv/hr at 0.91 m). The room was locked and posted until the manufacturer's representative arrived. He also was unable to make the source retract. The manufacturer's representative then placed the transfer tube into a shipping container and shipped it back to the manufacturer for further investigation.

The Branch has since notified Region IV that the transfer tube used by this California licensee was not designed for use on the Nucletron MicroSelectron HDR Model Number 31324. Based on information provided to the Branch from the manufacturer of the HDR, the transfer tube on the Nucletron MicroSelectron is not designed to be interchangeable with other manufacturers' transfer tubes. The transfer tube used by the licensee was a Mammosite applicator manufactured by Proxima Therapeutics. When incorrectly installed on the Nucletron HDR device, the sealed source was located inside the transfer tube and at a distance of 3.9-5.5 inches (10-14 cm) from the patient's breast.

Doses to the patient, physicist, and physician were estimated as follows: patient's skin dose at 3.9 inches (10 cm) from the sealed source for 2 minutes was 61 rem (0.61 Sv); physicist's whole body dose for 2 minutes was 45 millirem (0.45 mSv); and physician's whole body dose was 125 millirem (1.25 mSv) and a extremity dose of 15 rem (0.15 Sv).

The Bureau is continuing to investigate the event.

Region IV received notification of this occurrence from NRC's Operations Center at 7:01 p.m. (EDT) on September 8, 2003. Region IV has informed OEDO, NMSS, OSTP and the Region's PAO and SLO.

This information has been discussed with the State and is current as of 5:00 p.m. (CDT) on September 9, 2003.

CONTACTS: Jackie Cook 817-860-8132
Jack Whitten 817-860-8197