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Personal Radiation Dosimetry at Radiological Facilities, Nepal

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The saga of using ionizing radiation is long back in Nepal especially in medical sector. With the introduction of radiation therapy and nuclear medicine, it has been felt the need of monitoring occupational radiation exposure. Only few hospitals three to four are monitoring their staff by sending thermoluminescent dosimeter (TLD) badges to Bhabha Atomic Research Centre, Mumbai, India. Over 95% radiation workers are never been monitored for their radiation dose. However, it is a mandatory by ILO that every radiation worker should be monitored for his/her radiation dose. To meet this requirement from the overwhelming requests from various hospitals, Nepal Academy of Science and Technology (NAST) initiated this work in 2013 and getting materialized recently through the assistance provided by the IAEA. Government of Nepal has assigned NAST to provide the dosimetry service for radiation workers in Nepal. For this service, a dosimetry setup comprising a Harshaw 6600 Plus TLD Reader along with TLD cards (TLD 100 LiF:Ti,Mg) has been installed just in the last December 2015 at Physical Science Laboratory, NAST. The complete dosimetry system has become operational only in March 2016 with the help of IAEA expert mission. Under a test service, Manamohan Memorial Cardiovascular and Transplant Centre (MMCTC) was chosen where 22 TLD cards were earlier provided to the personnel to wear the card and the cards were read out for dose assessment. The first personal dosimetry report for one month was issued in March 2016 for this hospital. The penetrating dose $H_p(10)$ and skin dose $H_p(0.07)$ of individuals have been shown in the Fig.1. The absorbed dose distribution of personnel show that few radiation workers received significant radiation in that duration.

Country/Organization invited to participate

Nepal

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