

Dose Assessment of Occupational Radiation Exposure of Radiation Workers Working at Different Radiation Facilities in Pakistan

The purpose of this study is to evaluate the effective implementation of PNRA Regulations and adoption of protective and safety measures by assessing radiation doses received by radiation workers working in different radiation facilities of Pakistan. In this study the occupational radiation doses of radiation workers from different radiation facilities were measured and analyzed for the period 2016—2020. Radiation workers were divided into two categories according to their work i.e. Nuclear Medical Center (NMC) and Industrial Radiography. The dose monitoring period varies from one month to three months depending on the potential of exposure. The radiation doses were assessed using thermo-luminescent dosimeter TLD-100 and were read through Harshaw Automatic TLD Reader 6600Plus. The average annual doses of radiation workers of NMC were 1.72 ± 0.65 mSv and Industrial Radiography were 2.06 ± 0.35 mSv respectively. These results show that radiation doses received by radiation workers are far below the radiation dose limit as described in Regulations on Radiations Protection-PAK/904 (Rev.1) This assessment provided confidence on the effective implementation of PNRA Regulations such as inspection of radiation facilities and fulfillment of regulatory requirement; awareness of radiation workers about the associated radiation hazards and use of adequate protective & safety measures at these facilities accordingly.

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