International Conference on Occupational Radiation Protection: Strengthening Radiation Protection of Workers –Twenty Years of Progress and the Way Forward

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OCCUPATIONAL EXPOSURE FROM RADIOPHARMACEUTICALS AND LABELED COMPOUNDS PRODUCTION IN CUBA

Over the last twenty-five years, the Centre of Isotopes (CENTIS) of the Republic of Cuba manufactured of a wide range of radioactive products for healthcare, life science research and industrial applications and realized biodistribution and pharmacokinetic studies. These practices generally have not a significant occupational exposure but it is necessary to adopt dose constrains from ALARA principle. The aim of this study is to assess the occupational exposure taking into account the data belonging to the period 1996-2021. Individual monitoring used TLD dosimeters for measurement Hp(10), Hp(0.07) and Hp(3) and bioassays for E(50). The dose constrains by group of workers according to their operations considered experiences from other plants. As a minimum 63% of the monitored workers for E and 80% for Hp(0.07) received lower than 10% of the annual exposure limits. For Hp(3) since 2011 there is 67% of workers with values less than 6mSv. The maximum value registered for collective dose is 98.3 man-mSv y-1, which is less than about 0.49 times the initially projected value. The more exposed groups are Radiopharmacy and Quality Control. The most useful tools for exposure optimization are the use of electronic dosemeters, an additional shielding for the collection of radwastes and shielding for components in hot cells. These measures allow a dose reduction between 10-27%. This research shows an occupational exposure acceptably low.

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