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RADIATION DOSE ASSESSMENT AT THE SECONDARY STANDARD DOSIMETRY LABORATORY(SSDL) OF THE GHANA ATOMIC ENERGY COMMISSION DURING IRRADIATION

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ABSTRACT

In Ghana, the responsibility for providing adequate protection of workers against radiations rests with the employer. It also behooves the worker to take all reasonable measures, for example by avoiding unnecessary exposure, to keep his/her own radiation exposure and that of others to the minimum consistent with their duties. Monitoring of working conditions and individual monitoring forms the main components of any radiation protection programme. Most often workplace monitoring is ignored because workers are confident that the type and activity of sources use do not pose any danger, once laid down procedures are followed. This denies the workplace of monitoring data that can be used in emergency situations to estimate doses. The researchers used a Canberra survey meter calibrated for H*(10) to measure the ambient dose equivalent rate distribution within the Ghana Secondary Standards Dosimetry Laboratory (SSDL) in Ghana and subsequently determined the effective annual doses under varying conditions in the laboratory. The highest ambient dose recorded was whilst the source was irradiating, is 8.04 μ Sv/h. The highest annual effective dose determined is 9.8543 mSv which is 19.7% of the recommended limit of 50 mSv. The distribution of radiation levels in the SSDL is determined to be acceptably safe and satisfactory. Radiation Protection Institute should set up a unit that will coordinate workplace monitoring in the institute. This is necessary because the SSDL is sandwiched by other laboratories, offices and boardroom.

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Ghana

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