

Decommissioning of a Cobalt-60 Unit and Estimation of Exposure Dose to Personal

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Abstract

The Department of Radiation Oncology at the National Taiwan University Hospital plans to retire the original cobalt-60 machine, and empty out the treatment room to install a new linear accelerator. The old cobalt-60 machine that will be removed is a sealed source for medical use. There should be a qualified radiation protection commissioner to supervise all procedures of dismantling the machine and the safety of transportation. After gaining the approval of the Atomic Energy Council (AEC) at the executive, all procedures concerning radiation protection works should be considered and in line with the steps according to "Regulations about the Security of Transporting Radioactive Materials" and "Rules of Ionizing Radiation Security" which are issued by AEC. Aiming at the workers who received radiation exposures during the dismantling gauge planned special exposures and estimating the doses. After conscientious and careful practices, planning and controlling of radiation protection obey the rule of ALARA (as low as reasonable achievable) whole dismantling and transportation of the cobalt-60 machine was smoothly accomplished. This paper describes the procedure about how to handle the retiring of a cobalt-60 machine and estimate personal dose fully and accurately.

Keywords: radiation protection commissioner, planned special exposures, as low as reasonable achievable (ALARA)