

International Conference on Radioactive Waste Management: Solutions for a Sustainable Future (CN-294)



Contribution ID: 13

Type: POSTER

Safety and Security of Radioactive Sources: The Role of the Radioactive Waste Management Centre of Ghana

Hazards associated with ionizing radiation are deleterious to all living organisms and the environment in general. Sealed radioactive sources are the major sources of anthropogenic ionizing radiation in Ghana. They are applied in hospitals for x-ray imaging, cancer diagnosis and treatment; in industry and civil constructions for moisture and level gauge determination; and in agriculture for pest control and extension of shelf life of foods. Other sectors where radiation sources are used in the country include the gold mines and oil and gas exploration fields. When radioactive sources become deficient and do no longer serve the purpose for their intended manufacture, they become disused and are termed radioactive waste. Despite being disused, their activity are often high enough to cause radiation injury when mishandled or overly exposed to. Aside the safety concerns, radioactive sources are subject of national security. Their theft and unauthorized use have serious security implications. In view of these, the Radioactive Waste Management Centre (RWMC) of the of the Radiation Protection Institute (RPI) of Ghana was established with a core function of retrieving all radioactive waste generated in the country for further management. The RWMC operates a licensed Centralized Radioactive Waste Management Facility (CRWMF) where pre-disposal activities such as waste characterization, waste conditioning, re-containerization (in case of leakage) and storage are carried out. The Centre also undertakes radiation safety assessment and radiation protection training for users and transporters of radioactive sources.

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Session Classification: Solutions for Specific Wastes

Track Classification: 3. Solutions for Specific Wastes