

## Assessment of Security Measures and Systems for Radiological Facilities in Ghana

The security measures and systems for Radiological Facilities is considered to be an integral part of nuclear safety in Ghana. The changes made in ensuring and legislation of security following the establishment of new Nuclear Regulatory Authority. Regulation of radiation sources commenced in 1993 with the promulgation of the radiation protection instrument, LI 1559. Recently, the LI has been superseded by the nuclear regulatory authority Act 895 of 2015. The Act includes, among others, issues on safety and security of radiation sources, the regulation and management of activities and practices for peaceful uses of nuclear materials and radioactive sources, physical protection systems and the protection of persons and the environment. The Act established the independent nuclear regulatory authority in January 2016 and assigned the responsibility to regulate all radiation sources in the country. The basic concept and regulation in security and the effort made to strengthen the national regulatory programs of the nuclear materials and systems, as well as a brief survey of the radiological facilities in Ghana; experience in design, operation, inspection and licensing of the integrated security system for these radiological facilities; the upgrading of the security measures and systems at the different types of radiological facilities. The challenges of implementing security measures and systems are much more difficult now than in previous decades. The strategies used to protect the organization's assets need to have a layered approach. It is harder for an adversary to reach their objective when multiple layers have to be bypassed to access a radiological facility along with the strategies that should be in place to implement the security at facilities using administrative, technical and physical controls. The main objective of the security systems and measures is to prevent the accomplishment of unauthorized obvious or obscured activities to nuclear facilities and nuclear materials. It is also to prevent radiological sabotage of facilities and theft of nuclear materials. Thus an effective system of security also plays an important role in preventing illicit trafficking of nuclear materials. The paper describes detail past and present of security measures and systems of nuclear facilities and materials in Ghana. This paper outlines the methods and measures used in security assessment of radiological facilities in Ghana. The facilities considered were the Gamma irradiation facility and the waste management centre both located at Ghana Atomic Energy Commission (GAEC). This will ensure effective compliance of requirements set by the regulatory Authority and international best practices.

### Gender

Male

### State

Ghana

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