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Report of Contributions

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PREVENTIVE MEASURES TO SECURE RADIOACTIVE MATERIALS IN GHANA

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Radioactive materials are currently used worldwide and its use is of serious concern and has therefore become a national responsibility to secure it from both nuclear proliferation and radiological hazard. In Ghana, its beneficial applications ranges from medicine, industry, agriculture and academia. In the application of radioactive materials in the above area of activities, many are poorly secured and vulnerable to theft, radiation risks to workers, the public and to the environment. Theft, sabotage and radiological hazards have occurred round the world during the use of radioactive materials as a result of ineffective regulatory control or as a result of lapses in management control. These hazards generally have radiological, social, psychological and economic consequences on the individual, the public and the environment as a whole. In Ghana, various security measures that may serve either as deterrence or prevent any unauthorized access to a protected nuclear facility and associated facilities are used. In ensuring that radioactive materials do not become the subject of unauthorized use leading to illicit trafficking, the following preventive measures are taken into consideration. In Ghana, preventive security measures are put into two level, these are, state level and facility level. Preventive measures at state level comprises of national legal system which is the act that establishes the Nuclear Regulatory Authority (NRA) and other legal instrument which governs the use and security of radioactive materials, development of regulations, establishment of procedures and coordination, monitoring of border crossing and human resource development. At the facility levels, physical protection and facility functions are considered for the security of radioactive materials. These comprises the physical protection of the various facilities, provision of security guards at all facilities containing radioactive materials, access control measures and effective implementation of security culture.

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Contribution ID: **2** Type: **Paper**

Design an Effective Physical Security System to Prevent Breaches in the Security of Radioactive Material at Al-Tuwaitha Nuclear Site

Abstract:
The prevention of breaches in the security of radioactive material is the most important element in combating illicit trafficking in those materials. It outlines the main requirements for ensuring that the three most important elements in (1) preventing uncontrolled movement of radioactive materials, (2) accounting and control of radioactive material, and (3) the physical protection system, are in good order.
Physical security at nuclear facilities means detection, prevention and response to threat, theft, sabotage, unauthorized access and illegal transfer involving radioactive or nuclear material.
This paper proposes a physical security system designing concepts to reduce the risks that threaten the security of radioactive material at Al-Tuwaitha nuclear site.
The present paper aims to design an effective physical security system to enhance nuclear security measures on-site, to prevent a nuclear security threat from completing criminal or intentional unauthorized acts involving or directed at radioactive material or associated activities and to detect or respond to nuclear security events.
Moreover, the study involves assessing potential threats (both internal and external threats) against the site, upgrading the on-site physical security system by installing number of modern physical protection equipment at selected sensitive strategic locations, and finally testing the ultimate site's security system design after the upgrade to prove its worth and effectiveness by conducting some of hypothetical scenarios.

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Contribution ID: **47** Type: **Paper**

Experience sharing in implementing the CPPNM and its Amendment in Burkina Faso

Abstract: In Burkina Faso, nuclear technologies are used in several areas: industry, health, research, agriculture, building and public works, …. Burkina Faso is not a nuclear state, however, many radioactive materials have been using all around the national territory and some of them are coming from the neighboring countries such as Côte d'Ivoire, Ghana, Niger and Mali. Aware of security issues in West African region and of the security risk related to the presence of these sources in the country, the authorities of Burkina Faso have undertaken measures to enhance their security. In this way, Burkina Faso has ratified the CPPMN and its amendment in 2014, in order to comply with international regulations on nuclear material security.
Thus, in the implementation of the CPPMN, many actions have been carried out, in the sense of strengthening the regulation, strengthening national and international cooperation, training of security forces, … In this article, we share the experience of Burkina Faso on the implementation of the Convention on the Physical Protection of Nuclear Material (CPPNM).

Keywords: Nuclear security, CPPMN, implementation, regulation, cooperation, training

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