Contribution ID: **109**   Type: **Poster**

INVESTIGATION OF INITIAL ALARMS FROM RADIATION DETECTION INSTRUMENTS

INVESTIGATION OF INITIAL ALARMS FROM RADIATION DETECTION INSTRUMENTS

Obed Agbenorku1, Ann Mensah1, Simon Adu1, Kwame Appiah1, Philip Gyan1
1. Nuclear regulatory Authority

Abstract

The paper summarizes the work conducted by the authors working on the International Atomic Energy Agency (IAEA) Coordinated Research Project (CRP) on "Improved Assessment of Initial Alarms for Radiation Detection Instruments –J02005"and more specifically, Ghana carried out its project on "Investigation of Initial Alarms from Radiation Detection Instruments". The goal of the CRP is to developing a composed tool for Front Line Officers (FLOs) to aid them in their analyses of cargo containing characters of radioactive materials at border post. Ghana was tasked to gather enough data on alarming containers at selected border post in Ghana to aid in the development of a composed tool for FLOs. With hundreds of cargos crossing borders everyday, the use of Radiation Detection Device has become an essential tool for the detection of unauthorized transboundary movement of nuclear and other radioactive materials. Ghana currently do not have Radiation Portal Monitors (RPMs) and border detection is solely based on Radiation Handheld Device (RHD). Majority of alarms are simply the result of Naturally Occurring Radioactive Materials (NORMs). Additionally, fatigue of the operator and the 50% likelihood of the presence of NORMs create a situation where material out of regulatory control could pass through a border crossing without being duly investigated. Per the deliverables in the detailed programme, data collection has been carried out on about a 700 conveyances/containers covering all kind of commodities passing through the three selected borders where about 50 alarming containers of various radionuclides (NORMS). Cargo selection was according to the arrival of containers at the scanner section. Data collected was inputted into a computer tool called ICAAD which was transfered onto the IAEA data sheet to aid in the development and implementation of the Tool for Radiation Alarm and Commodity Evaluation (TRACE) application and associated algorithms. Commodity type, Container information, Dose rate reading from the RHDs, and Identified radioisotope (NORMs) were recorded. This provided detailed information for various cargo commodities. Apart from the project helping to develope the TRACE, it also revealed interesting outcomes which will be of significant help to the FLOs and the state in the provision of RPMs at its boarder posts.

Primary author: Mr AGBENORKU, Obed (Nuclear Regulatory Authority)

Co-author: MENSAH, Ann (Nuclear Regulatory Authority)

Presenter: Mr AGBENORKU, Obed (Nuclear Regulatory Authority)

Session Classification: Session V - Transportation of NORM Material and Transboundary Issues

Track Classification: NORM Transboundary Issues including Transportation