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## **RADIOACTIVITY CONCENTRATIONS IN MINES**

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RADIOACTIVITY CONCENTRATIONS IN MINES, ZAMBIA

A.Chilulua

aRadiation Protection Authority(RPA), P.O Box 50002, Lusaka Email address:abigailsimwinga2016@gmail.com

## Abstract

The mining and processing of copper concentrates in Zambia generates a variety of waste materials which contain radioactive and non-radioactive hazardous constituents. Conventional underground and open pit mining activities produce overburden mineralized waste and barren waste rock, which are generally low in their uranium and thorium contents and are left in proximity to the mining site. Economically, valuable ore is stockpiled and processed at mill sites, and the residual waste, mostly mill tailings, is normally disposed-off near the same mill sites. This waste is hazardous and requires appropriate management.

The Naturally Occurring Radioactive Materials (NORM) may present radiological risks to workers, members of the public and the environment, yet very little attention is attached to them, moreover, the risk of exposure may require some form of control to protect people and the environment. Recent Environmental Radiological Surveys conducted have revealed that readings at one of the major mines were above the recommended levels. This implies that much more needs to be done in managing such facilities.

This paper therefore, intends to provide information regarding one of the Radiological surveys that was conducted at one of the mines regarding NORM levels in order to draw recommendations on addressing challenges and propose possible solutions in Zambia.

Primary author: Ms CHILULU, ABIGAIL (RADIATION PROTECTION AUTHORITY OF ZAMBIA)

Presenter: Ms CHILULU, ABIGAIL (RADIATION PROTECTION AUTHORITY OF ZAMBIA)

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