

**International Conference on Occupational Radiation Protection:  
Strengthening Radiation Protection of Workers –Twenty Years of Progress  
and the Way Forward**

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## **Radon in Nicaraguan Gold Mine**

Nicaragua is a tropical country so the climate is warm, which forces residential houses to be ventilated. This makes Radon gas emphasize in the workplace, especially in closed places and that are underground. One of the places that meet these conditions are gold mine tunnels. In Nicaragua, gold is one of the country's natural resources and it is exported generating foreign exchange. There are several mines and types such as open pit but by the same condition of being open pit they are ventilated places.

The evaluation that we will carry out will be directed to the underground mines. In the gold mines there are a good number of workers dedicated to this mining activity, from engineers in mines to workers who work shifts in tunnels, also this work to measure Radon gas is carried out in a mine that is authorized by the Ministry of Energy and Mines and the Ministry of Labor with the international standards of worker protection for this activity and where workers use their protective accessories such as helmets, masks, etc. The measurements that will be obtained will be compared with the international limit of 1 KBq / cubic m, depending on the results, actions will be recommended to avoid the inhalation of Radon gas. The procedure to follow is to go to the tunnels of the mine that is approximately 150 kilometers from our capital, which is where the regulatory offices are to place the equipment to measure Radon and leave it for a long time to do the accounts and give us the values in Bq / cubic m and in different periods of time, for example, compare if it is the same value in the morning in the afternoon and in the evening, this in order to evaluate if the flow of Radon gas is kept constant at different times or changes (decreases or increases).

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