

LESSONS LEARNED FROM OCCUPATIONAL EXPOSURES ASSESMENTS IN DIFFERENT NORM INDUSTRIES

Rafael García-Tenorio

Departamento Física Aplicada II, Universidad de Sevilla, Spain

Abstract

The author of this paper during the last 15 years has participated in the determination and evaluation of the occupational exposures in different industrial activities included in the positive list of NORM industries. These assessments have involved industries devoted to the production of phosphoric acid by the wet method, to the production of phosphate fertilizers, to the production of titanium dioxide pigments by the sulphate method using ilmenite as raw materials, to the extraction of oil and gas and to the recycling of metals, between others.

The great majority of these studies due to the university status of the author, have covered two aspects: a first one centered in providing a service to the industries involved, in order to fulfill all the steps fixed in the applicable regulations, and a second one, more academic, devoted to perform some research and pilot studies in order to gain knowledge and to explain scientifically the radiological and radiometric information obtained in the evaluations.

The experience accumulated in the performance of these occupational exposure assessments will be summarized in this contribution, with special emphasis in highlight some lessons and conclusions applicable in all the studies performed with independence of the big differences that can be found between the raw materials involved and between the industrial processes applied. The relative importance of the different occupational exposure routes (external, inhalation, ingestion...), the weight of radon in the doses received by the workers, the existence of "memory effects" along the production processes, the finding of some "hot points" along the analysed process, and the proper radiological evaluation of the different type of wastes and by-products generated, will be presented and discussed.