

# THE ICRP APPROACH TO LOW LEVEL RADIATION RISKS

by

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## ABSTRACT

In the fifties, the ICRP was confronted to the first signs indicating that ionising radiations could cause medium and long term effects (such as leukaemia, or genetic effects). At this time, the quantification of the stochastic effects of ionising radiations was not available. However, the recommendations of ICRP in 1959 already adopted a precautionary attitude, considering that there where no threshold level of dose below which no effects would occur. As a consequence, the ICRP adopted a set of principles for the management of radiation protection, recommending to reduce exposures as low as practicable, while at the same time, research on the effects of ionising radiation was developed at the international level.

This first step of precaution appeared to be relevant: the scientific research during the second part of the 20th century allow to quantify the dose-effect relationship, reducing progressively the field of uncertainty as new data where confirming the linearity of the dose-effect relation-ship and diminishing the dose level above which the relation is significant.

What is important to consider is that the adoption of precautionary principle didn't stopped the radiation risk activities, but was the start for the development of a "philosophy of action" to implement a responsible management of the radiological risk.

The implementation of the three main principles of radiation protection - justification, optimisation of radiation protection and limitation of individual exposures - enable the development of the use of ionising radiations in various fields while searching continuously how to maintain the risk at an acceptable level.

The ICRP approach shows that the adoption of the precautionary principle can be seen as a responsible attitude towards risk uncertainties. The main issue remains then in the process to be adopted in order to reach the acceptable and accepted level of risk.