

Response on consultation of the Draft report of HLEG on European Low Dose Risk Research.

Having in mind the time period encompassed by the Draft it seems to me the necessity to rise very important topic, namely:

the perspective of abandoning the absorbed dose concept especially in radiation protection area as a basic unit for quantifying the risk factor for a given type of radiation.

This question is discussed from time to time and the report should underline where we are at present. With the above question it seems to me that radiation physics(experimental and theoretical) should return to the basic part to be considered within the context of this Draft. So, additionally to the position “ the effects of radiation quality(type)” I propose to insert :

“ descriptors of radiation action at molecular, DNA , cellular, organ levels”

Why: because at protection level we have to deal with fluctuation of observed initial physical species (e.g. ionizations, clustering) at nanometre scale which play an important contribution of radiation action having the biological consequences (risk).

It is commonly recognized that system of measuring tools and quantities depend largely on the actual availability of an adequate method. So historically absorbed dose concept was introduced when Bragg- Gray theory was implemented. Concept of specific energy and quality parameter (L100) enter when Rossi counter and relevant concepts were developed. Now we are at the level of nanodosimetry which proposes the new descriptors which for the first time are based not on energy deposition concept but on fluence. Personally I have hope that such change could be of great interest to whole RP community and shall be further investigated.

The presented Draft is very interesting and clearly written.

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