

TASK GROUP 127

Exposure Situations and Categories of Exposure

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Background

The current System of Radiological Protection (RP) recommended by ICRP has been described in Publication 103 (2007). Compared to the previous recommendations (Publication 60, 1991), a key evolution is the shift from a process-based approach (practices versus interventions) to a unified approach for all controllable sources mainly based on the optimisation principle and taking into account the characteristics of the exposure situations (ES). For this purpose, ICRP introduced three types of ES: existing, planned and emergency. ICRP also continued to use the categories of exposure within the system of RP: i.e. occupational exposure, public exposure and medical exposure, which can be dealt with separately even if incurred by a same individual. Specific considerations have also been introduced for environmental exposure with the adoption of reference animals and plants (RAPs).

The integration of these recommendations into international standards and then into national regulations has sometimes posed difficulties, not to say misinterpretation, and their practical implementation has proven to be complex in some cases. Many regulators and operators expressed the wish to have more guidance for implementing the RP system, in particular, but not only, in existing exposure situations which are very diverse, as well as about the notion of occupational exposure and its significance in exposure situations other than planned. Since the adoption of this new approach in Publication 103, ICRP has developed a series of publications dedicated to the application of the system of RP. Based on these publications, feedback and experience on the implementation of Publication 103, a thorough review of the approach to exposure situations and categories of exposure is critical to prepare for the next General Recommendations. Further, the development on environmental radiological protection, notably with Publication 124, and the forthcoming report on veterinary practices have emphasised the need for the integration of environmental radiological protection in the implementation of the system of RP and to consider the categorisation of exposures for animals and plants.

Mandate

The aim is to review the concepts and implementation of exposure situations and categories of exposure used in the current system and to consider whether and what adjustments may be appropriate.

This Task Group (TG) will outline the recommendations in Publication 103 and other relevant publications applying to each type of exposure situation and to each category of exposure. On this basis, the TG will examine the structure and application of exposure situations and categories of exposure and consider whether changes or additions would improve the protection of people and the environment in the prevailing circumstances. The TG will also clarify the possible transitions between exposure situations. In doing so, the TG will take into account the suggestions and alternatives that have been or will be made in the various consultations.

Specific considerations will be given to the adoption of a graded approach according to the characteristics of the exposure situations and categories of exposure, reflecting ethical values and making reasonable and transparent use of numerical criteria and expert judgments. This will include application and terminology of limits, constraints,

and reference levels. The issue of environmental protection will be addressed in a close cooperation with TG 99, TG 105, TG 114 and TG 125, in order to advise on the integration of environmental radiological protection into exposure situations and categories of exposure.

Process

As a first step, the Task Group will review the elements available in ICRP Publication 103 on the approach in terms of exposure situations and categories of exposure. Then, a review of the ICRP publications subsequent to Pub 103 will be carried out to identify if there is a need for adaptation or clarification. The TG will then consider whether modifications or additions may be appropriate for consideration.

The second step will be initiated by open topical workshops organised in cooperation with several organisations in formal relations with ICRP to draw lessons from past experience of the implementation of the System of RP in terms of exposure situations and categories of exposure. The workshop is expected to involve experts in different fields to cover all the exposure situations and categories of exposures. Special attention will be paid to the existing exposure situations that are known to pose difficulties to the radiation protection actors. Task Group thinking will be presented as candidate ideas to stimulate discussion and solicit feedback.

Deliverables

- The Task Group will develop a report for publication in Annals of the ICRP summarising the results of the process outlined above.
- Material suitable for ICRPædia may be developed in collaboration with the Scientific Secretariat.

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