

# **Task Group 114: Reasonableness and Tolerability in the System of Radiological Protection**

## Mandate

The objective of the Task Group is to review the historical and current perspectives on reasonableness and tolerability to consolidate and clarify *Publication* 103, and to prepare the considerations and basis needed for development of future recommendations. In doing so, an examination of the approaches used in other fields, such as chemical risk, will be undertaken. The underlying basis upon which decisions are made will be considered for different contributors to risk, to help inform radiological considerations. The TG will review factors associated with occupational exposure, public exposure, medical exposure, and environmental exposure in planned exposure situations, and those relevant in existing and emergency exposure situations. The TG efforts will provide practical advice on how decisions can be undertaken in light of the concepts and will provide information to inform Commission discussions on the basis and rationale for selection of recommended ICRP values for various dose criteria. The Task Group was officially established May 5, 2019.

### **Tolerability**

The degree or extent to which something can be endured.

## Members

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**Nicole Martinez**, Clemson University, USA

#### Reasonableness

To make rational, informed, and impartial decisions that respect other views, goals, and conflicting interests.

#### **Types of questions under consideration**

 $\checkmark$  What is the link between tolerable and reasonable?

✓ Reasonable for whom?

- $\checkmark$  What are the considerations and criteria on which the concepts of tolerability and reasonableness are based?
- $\checkmark$  What is the trade-off between level of exposure and benefit?
- $\checkmark$  How do we account for sensitive or vulnerable populations?
- $\checkmark$  How are interests reflected and integrated for human and nonhuman exposure?
- $\checkmark$  How do we best support reasonable value for society?

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 $\checkmark$  What are some strategies to assist in balancing competing values in determining what is tolerable and/or reasonable?

- $\checkmark$  Are the same criteria applicable for tolerability in all exposure situations?
- How do different paradigms used for non-radiological risks inform and contribute to radiological protection?

#### **Current and Proposed Models for the Tolerability of Risk**

#### The tolerability of risk model adopted in ICRP Publication 60



**Quietude:** Going about daily activities without worrying about potential risks. It involves to be confident in the arrangement put in place to control these risks and to trust the organizations and people who manage them. This is typically the case for public exposures in planned exposure situations when the risk is fully under control

**Vigilance:** Keeping careful watch for possible difficulties or risks. This is typical of occupational exposures in planned exposure situations for which workers must exercise constant vigilance. This is also true for the public in existing exposure situations

**Reaction:** Acting and moving quickly in order to avoid sudden risks. This is typically the case of exposure situations resulting from the loss of control of a source, such as a nuclear accident, or from any unexpected situation when the risk becomes potentially unacceptable



#### First Task Group Meeting at the 64<sup>th</sup> Annual Health Physics Society Meeting, July 2019

#### **Special Session**

Jacques Lochard, "About the tolerability of radiological risk" Don Cool, "Where do we go from here on the quest for reasonableness?"

Jean-Francois Lecomte, "IRPA/SFRP workshops on the practical implementation of the ALARA principle"

Roger Coates, "Practicality, common sense and value for society"

Kathy Held, "Thoughts on tolerability/reasonableness from NCRP"

Nolan Hertel, "A dilettante looks at ICRP Publication 138" Nicole Martinez, "What is reasonable radiation protection for Non-human Biota?



TG 114 in Orlando, FL: (from left to right) Haruyuki Ogino, Don Cool, Thierry Schneider, Nicole Martinez, Jacques Lochard, **Jean-Francois Lecomte** 

#### **Strategy Moving Forward**

- Identify and collect available publications and documents on tolerability and reasonableness
- Prepare a series of "white papers," prioritised on the following issues:
  - How the concepts are addressed in ICRP publications
  - Approaches and frameworks developed/adopted in other fields for assessing and managing risks (with a specific focus on chemical risk)
  - Analyse the implementation of the concepts to deal with the various exposure situations and categories
- Next meeting to be held in Lisbon, Portugal, January 2020 in conjunction with NEA workshop on optimisation and the art of reasonableness