ICRP 2006

RECOMMENDATIONS

Annie SUGIER

GT CIPR - 7 décembre 2006

❑ Why ICRP Recommendations ?

- To take account of new biological and physical information and of trends in the setting of radiation safety standards;
- To improve and streamline the presentation of the recommendations.

❑ Main concern

- To maintain as much stability in the recommendations as is consistent with the new scientific information.

RP06: FOCUS ON ICRP MAIN MESSAGE

Continuum of risks (LNT)

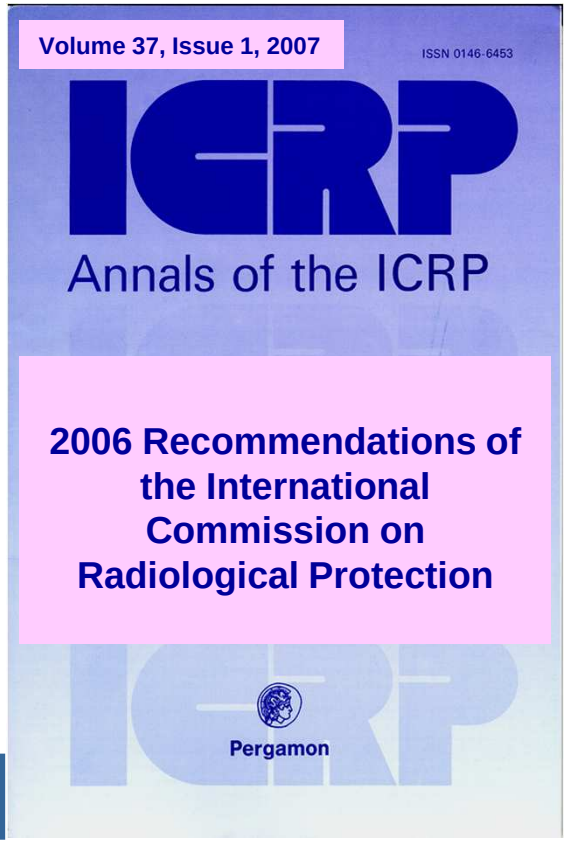
The risk each of us is ready to accept is dependent on the context of the exposure

- **International guidance is needed**

- **The scale of source-related constraints.**
- **On the basis of existing ICRP quantified values**

THE STRUCTURE OF RP06

- Aims and scope
- Biological aspects
- Dosimetric quantities
- The system of radiological protection
- Medical exposure of patients
- Exposure to natural sources
- Potential exposures
- Emergency and existing situations
- Protection of the environment
- Implementation of the recommendations
- Glossary
- References



THE STRUCTURE OF RP06

New version

- Aims and scope
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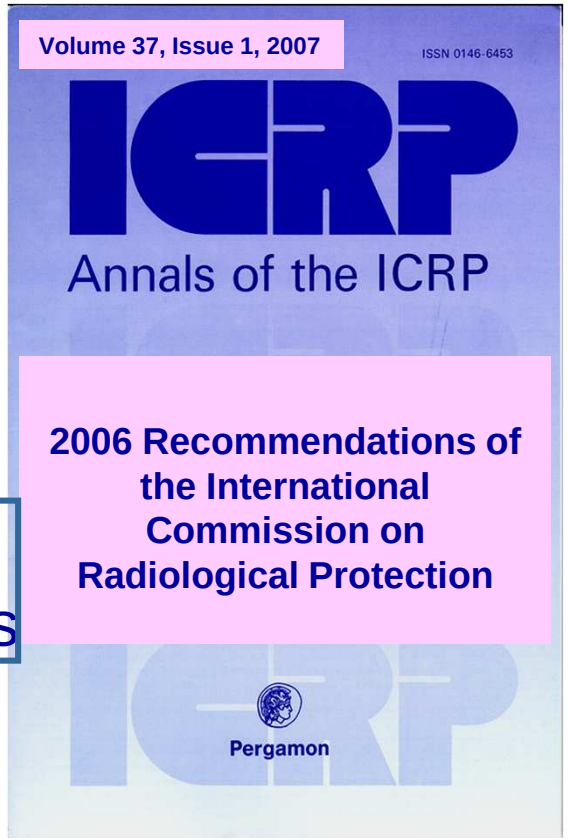


MORE ABOUT THE TWO CHAPTERS ON THE SYSTEM

- The system:
  - Definitions, concepts and principles
  - Optimisation, constraints and limits

- Implementation:
  - Planned exposure situations
  - Emergency exposure situations
  - Existing exposure situations

Foundation Documents and Building Blocks

Foundation documents:

- **Biological and Epidemiological Information on Health Risks Attributable to Ionising Radiation (C1)**
- **Basis for Dosimetric Quantities Used in Radiological Protection (C2)**

Building blocks:

- **Low-Dose Extrapolation of Radiation-Related Cancer Risk (C1)**
- **Radiological Protection in Medicine (C3)**
- **Optimisation of Protection (C4)**
- **Assessing Dose to the Representative Individual (C4)**
- **The Scope of Radiological Protection Regulations: Exclusion and Exemption (MC)**

❑ The aim of the Recommendations

- To provide an appropriate standard of protection for people and the environment, without unduly limiting the beneficial actions giving rise to radiation exposure.

❑ And what about the existing quantifies values ?

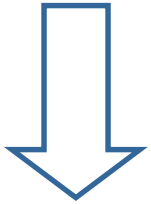
• The 2006 recommendations consolidate and add to previous recommendations issued in various ICRP publications.

• The existing numerical recommendations in the policy guidance given since 1991 remain valid unless otherwise stated.

MAJOR FEATURES

❑ Updating the weighting factors and the radiation detriment;

❑ Evolution and clarification of the system;

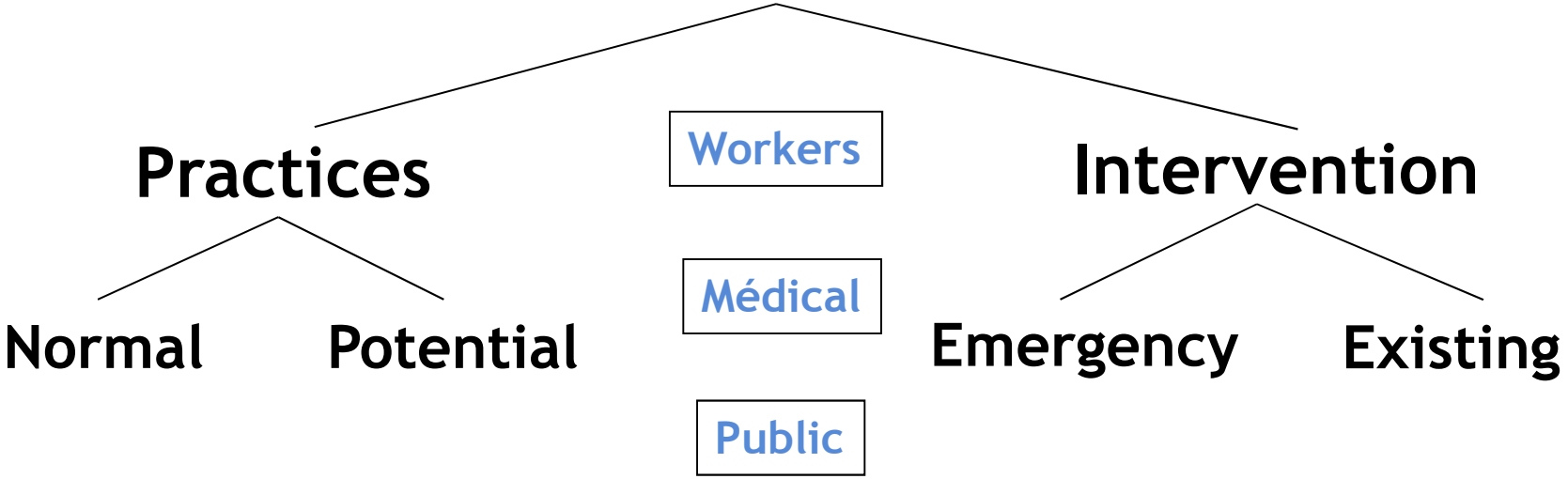


• Maintaining the three principles of radiological protection, and clarifying how they apply to sources and the individual;

• Maintaining the dose limits;

• Extending the concept of constraints in the source-related protection to all situations.

Protection Rules from ICRP 60



Justification of practices

Optimisation of protection

Constraints

Individual dose limits

+ Δ

Justification / **Optimisation**

Intervention levels

- Δ

Practices and Intervention in ICRP 60

Practices

Limit

Constraints

↓

Optimisation

Intervention

↓ Optimisation

Intervention Level

What happens below the intevention level?

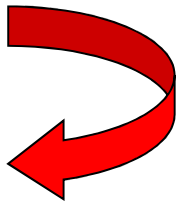
No further optimisation?

MAJOR FEATURES

- Replacing the concepts of 'practice' and 'intervention' with 3 types of exposure situations that address all conceivable circumstances:

  - Planned situations
  - Emergency situations
  - Existing situations.

DOSE CONSTRAINT and REFERENCE LEVELS



- Level of protection for the most exposed individuals from a single source within a type of exposure applying to all situations;
- Is used prospectively as the starting point of the optimisation process;
- Is not a form of retrospective dose limitation;
- In planned exposure situations, it is less than limits;
- In emergency or existing exposure situations, it represents the level of dose/risk where action is almost always warranted.

DOSE CONSTRAINT

BANDS OF PROJECTED DOSE	CHARACTERISTICS AND REQUIREMENTS
20 - 100 mSv	Exceptional situations. Benefit on a case-by-case basis. Information, training and individual monitoring of workers, assessment of public doses.
1 - 20 mSv	Individual direct or indirect benefit. Information, training and either individual monitoring or assessment.
0.01 - 1 mSv	Societal benefit (not individual). No information, training or individual monitoring. Assessment of doses for compliance.

TIME SCHEDULE

- **Beginning of 2007: last web information before publication**
- **March 19th-21st: Main Commission meeting at Essen: final approval of RP06**
- **2007: Publication of the new recommendations.**