



# Application of the Commission's Recommendations: the 2013- 2017 Committee 4 Programme of Work



**Jacques LOCHARD**

Vice-Chair &  
Committee 4 Chair

2<sup>nd</sup> International Symposium on  
the System of Radiological Protection  
Abu Dhabi, UAE  
22 October 2013

## **The mission of Committee 4**

**ICRP Committee 4 has the responsibility to develop principles, recommendations and guidance on the protection of people against radiation exposure and to consider their practical application in the various exposure situations**

# Membership

- Jacques Lochard - France (*Chair*)
- Donald Cool - USA (*Vice-Chair*)
- Jean-François Lecomte - France (*Secretary*)
- François Bochud - Switzerland
- Mike Boyd - USA
- Analia Canoba - Argentina
- Kunwoo Cho - Korea
- Mark Doruff - USA
- Eduardo Gallego - Spain
- Ann Mc Garry - Ireland
- Toshimitsu Homma - Japan
- Michiaki Kai - Japan
- Senlin Liu - China
- Anne Nisbet - UK
- Deborah Oughton - Norway
- Thiagan Pather - South Africa
- Sergey Shinkarev - Russia
- John Takala - Canada

# Committee 4 – October 2013, Abu Dhabi



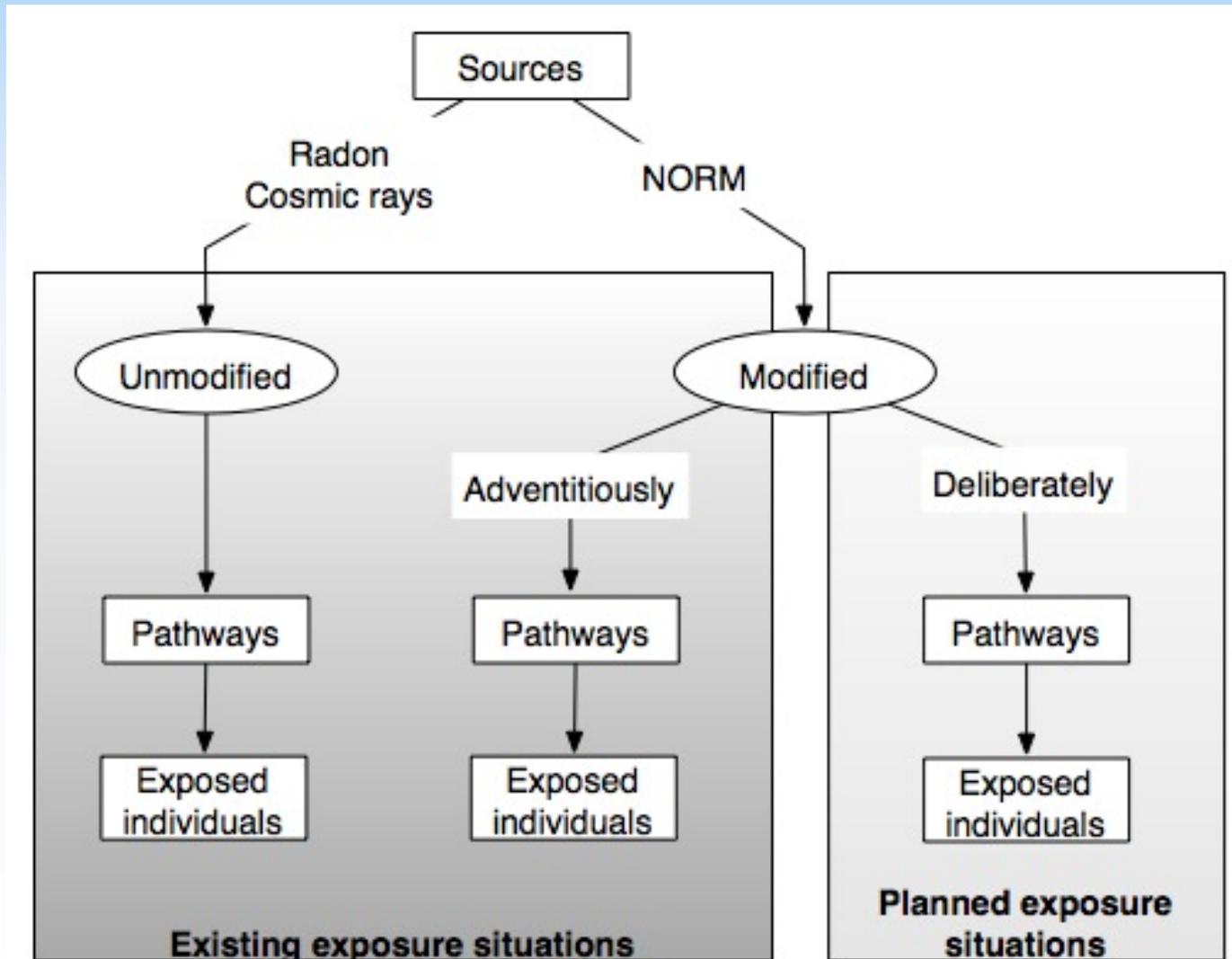
## Recent C4 Publications

1. **ICRP Publication 122**: Radiological Protection in Geological Disposal of Long-lived Solid Radioactive Waste
1. **ICRP Publication 124** : Protection of the Environment under Different Exposure Situations (In Press- Joint C4/C5 work)
1. **ICRP Publication 125** : Radiological Protection in Security Screening (In press)

## **The 2013 – 2017 programme of work**

- 1. Finalize the work in progress on NORM and cosmic radiation in aviation**
- 2. Task Group 93 on the update of Publications 109 and 111**
- 3. Task Group 94 on the ethics of radiological protection**
- 4. Task group on contaminated sites to complete the series of Publications on existing exposure situations**
- 5. Task Group on surface and near surface disposal of radioactive waste to complement Publication 122**
- 6. Develop of a new series of "end users" oriented Publications**
- 7. Working Party on the tolerability of radiation risk**

# Exposures from natural sources



## **Task Group 76 on NORM**

- **Chaired by Jean-François Lecomte (France). Renewal of membership in 2013. Publication expected in 2015**
- **To develop a report on the application of the Commission's recommendations (ICRP 103) on radiological protection against enhanced exposures from industrial processes using NORM**
- **Wide range of industrial practices. Large variation of activity concentrations and distribution of individual exposures**
- **Impossible to adopt a simple generic approach for the safe management of all NORM industries**
- **A priori existing exposure situations but may be managed like planned exposure situations when existing sources are removed and deliberately modified**

## **Task Group 83 on cosmic radiation in aviation**

- **Chaired by Jacques Lochard (France). Publication expected in 2014**
- **To develop a report that describe and clarify the application of the 2007 recommendations for the protection of aircraft crews and passengers against cosmic radiation**
- **Existing exposure situation for which exposures of air crew are considered by the Commission as occupational exposures since Publication 60 and exposures of frequent flyers as public exposures**
- **Optimisation of protection for aircrew individual by work planning: route selection and alternation of long and short-haul aircrafts**
- **Requirements for aircrew : information, monitoring, recording and medical surveillance – Protection for the embryo-foetus**

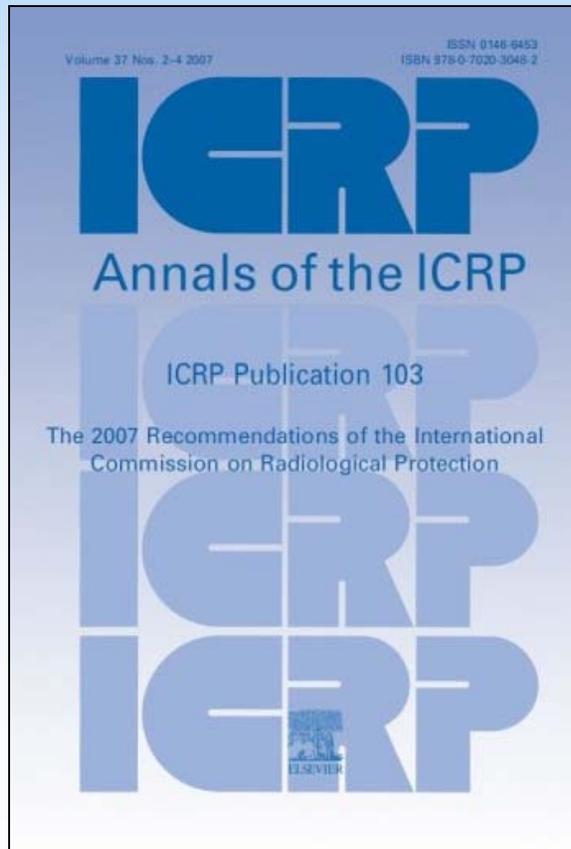
## **Task Group 93 on update of Publications 109 and 111**

- **Chaired by Michiaki Kai, vice-chair Toshimitsu Homma (Japan). Publication expected in 2015**
- **To update the Publications in the light of the lessons from Fukushima and recent international developments concerning the protection of people in emergency exposure situations, and people living in long term contaminated areas after a nuclear accident or a radiation emergency**
- **The Task Group will develop its work in cooperation with a Group of Japanese stakeholders and the ICRP members involved in the Dialogue on the rehabilitation of living conditions after the Fukushima accident initiated by the Commission in Autumn 2011**

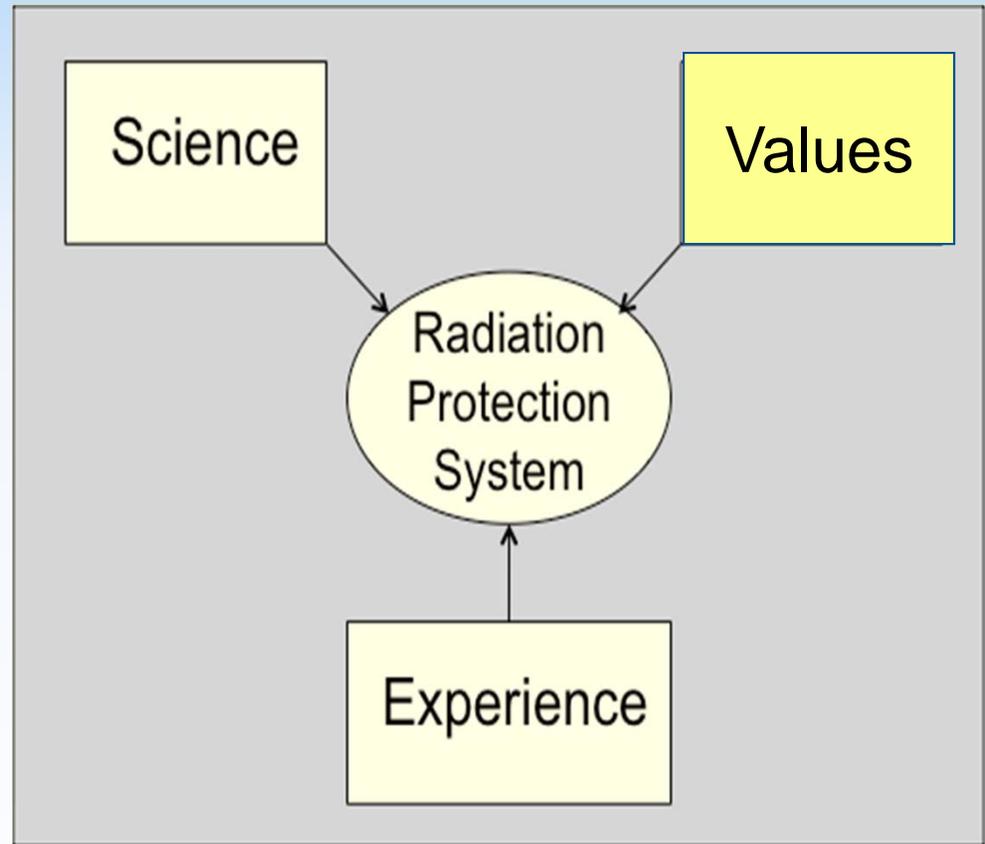
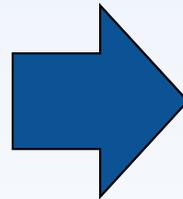
# The ICRP Dialogue in Fukushima – Date city, July 2012



# The three pillars of the system of radiological protection



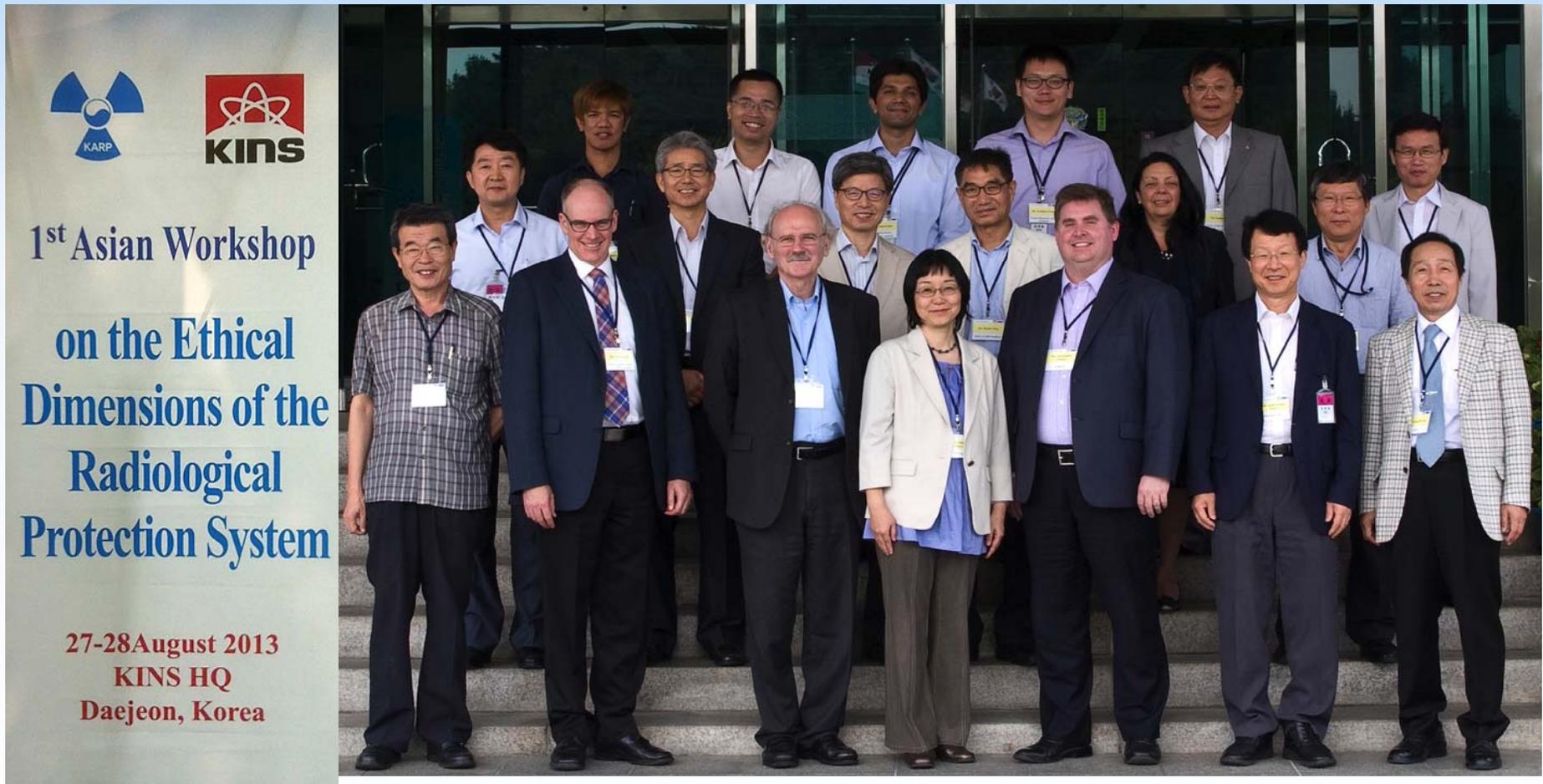
**Publication 103**



## **Task Group 94 on the ethics of radiological protection**

- **Chaired by Deborah Oughton (Norway). Publication expected in 2016**
- **To present the ethical foundations of the system of radiological protection recommended by the Commission**
- **To consolidate the recommendations, improve the understanding of the system and provide a basis for communication on radiation risk and its perception**
- **Developed in connexion with Regional Workshops organized by IRPA Associate Societies in cooperation with ICRP and IRPA**
  - **Asian workshop: Daejeon Korea, September 2013**
  - **European workshop: Milan, Italy, December 2013**
  - **American workshop: Baltimore, USA, July 2014**

# First Asian workshop on the ethics of radiological protection – Daejeon, Korea, August 2013



## Ethical and societal values underlying the system - An initial approach -

- **Benevolence** : do more good than harm
- **Prudence** : keep exposure ALARA
- **Justice**: reduce inequities
- **Dignity**: involve stakeholder
- Two values to be carefully considered:  
**reasonableness** and **tolerability**

## **Working Party on the tolerability of radiation risk**

- **Chaired by Ann McGarry (Ireland)**
- **Publication 26 : the risk associated with dose limits compared with safe occupation for occupational exposures and risk commonly accepted in everyday life (e.g. public transport) for public exposures**
- **Publication 60: introduction of the tolerability of risk model: difference between unacceptable, tolerable and acceptable levels of risk. Use of a multi-criteria approach for the occupational dose limit and reference to the natural background for the public dose limit**
- **What are the implications of the situation–based approach introduced by Publication 103?**

# Attitudes towards risks and exposure situations

## - First reflections -

- **Quietude:** In everyday life we forget the risk if it is well controlled, we have confidence in the arrangements put in place and we trust the institutions and people responsible for the control – **Planned exposure situations**
- **Vigilance:** When we are aware that a risk is present around us or we are suspicious that something may go wrong, then we pay attention. If we notice any sign of risk, or that the situation is not well controlled, we take action to try and reduce the risk in order to reassure ourselves that we have done what is possible – **Existing exposure situations**
- **Reaction:** When facing an imminent danger or being involved in a degraded situation we act to protect ourselves and our loved ones and we are in solidarity with others – **Emergency exposure situations**

**The tolerability of risk depends on the characteristics of the exposure situation and the need for action**

## Concluding remarks

- The main task of C4 is to integrate in the system of protection all the consequences of the evolution from the previous approach based on the distinction between practices and interventions (process-based approach) to the new one based on the exposure situations (situation-based approach)
- This will be done:
  - **Following carefully scientific and societal evolutions**
  - **Clarifying ethical and societal values underlying the system of protection**
  - **Revisiting the issue of tolerability of radiation risk in relation with the three types of exposure situations**
  - **Maintaining a separate perspective from the regulatory requirements**

# ICRP

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