

ICRP

Application of the Commission's Recommendations - The Activities of Committee 4 -

ICRP Symposium on the International
System of Radiological Protection

October 24-26, 2011 – Bethesda, MD, USA

ICRP
SYMPOSIUM
October 24-26
2011

Jacques LOCHARD
Chair of ICRP Committee 4

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INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION

The mission of Committee 4

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

The Committee also acts as a major point of contact between the ICRP structure and other international organisations and professional bodies concerned with protection against ionising radiation

Membership

- Jacques Lochard – France (*Chair*)
- Wolfgang Weiss – Germany (*Vice Chair*)
- Jean-François Lecomte – France (*Secretary*)
- Peter Burns - Australia
- Pedro Carboneras - Spain
- Donald Cool - USA
- Toshimitsu Homma - Japan
- Michiaki Kai - Japan
- Hua Liu - China
- Senlin Liu - China
- Sigurdur Magnusson - Iceland
- Gustavo Massera - Argentina
- Ann Mc Garry - Ireland
- Khammar Mrabit - Morocco
- Sergey Shinkarev - Russia
- Jane Simmonds - UK
- Alex Tsela – South Africa
- Werner Zeller - Switzerland

Observers

- Emilie Van Deventer – WHO
- Malcolm Crick – UNSCEAR
- Renate Czarwinski – IAEA
- Augustin Janssens – EC
- Bernard Le Guen – IRPA
- Edward Lazo – NEA/CRPPH
- Shengli Niu – ILO
- Alain Rannou – ISO
- Joachim Schüz – IARC
- Miroslav Voitchev – IEC

Committee 4 – November 2009, Porto



Committee 4 priorities adopted in Porto for the 2009 – 2013 period

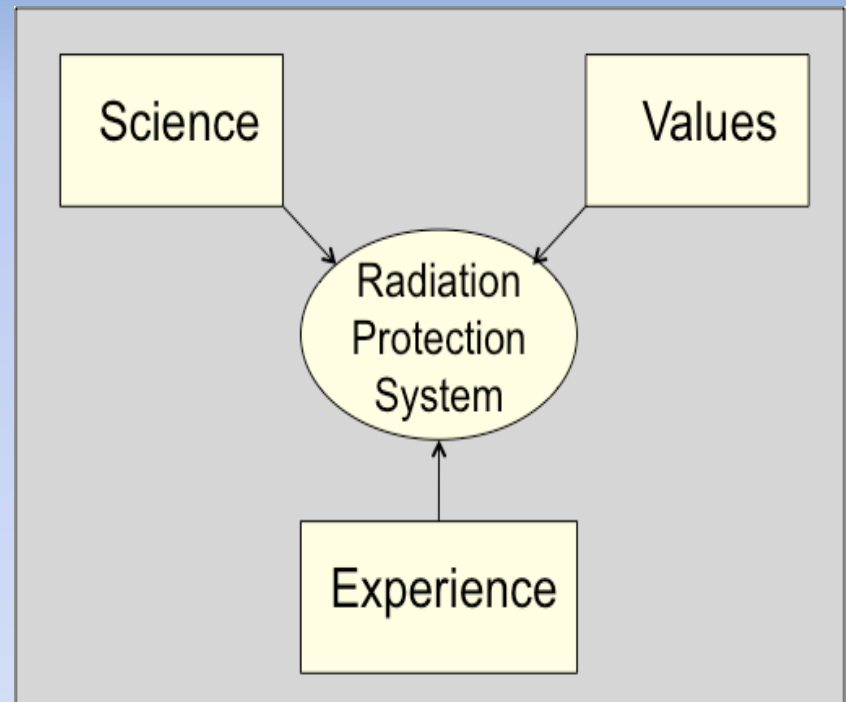
1. Develop advice on the implementation of the new Recommendations and contribute to their dissemination
2. Review the ethics and values (precautionary principles, tolerability of risk, equity, sustainable development...) underlying the principles and concepts of the RP system
3. Enhance the dialogue and cooperation with international and professional organizations

Main evolution from ICRP 60 to ICRP 103

- No more distinction between **practices** and **interventions**. The two concepts are replaced by three generic exposure situations, which cover all conceivable exposure situations:
 - **planned exposure situations** (identical to practices)
 - **emergency exposure situations**
 - **existing exposure situations**
- The principles of justification and optimization apply in the same way to the three exposure situations
- Boundaries exist for optimization as either dose constraints or reference levels
- Dose limits apply only to planned exposure situations
- The concepts of action levels and intervention levels are abandoned

Considerations in developing principles and recommendations

- Combine science, values and experience
- Engage stakeholders whenever possible
- **Self help protection actions**
- Focus on principles rather than regulatory instruments



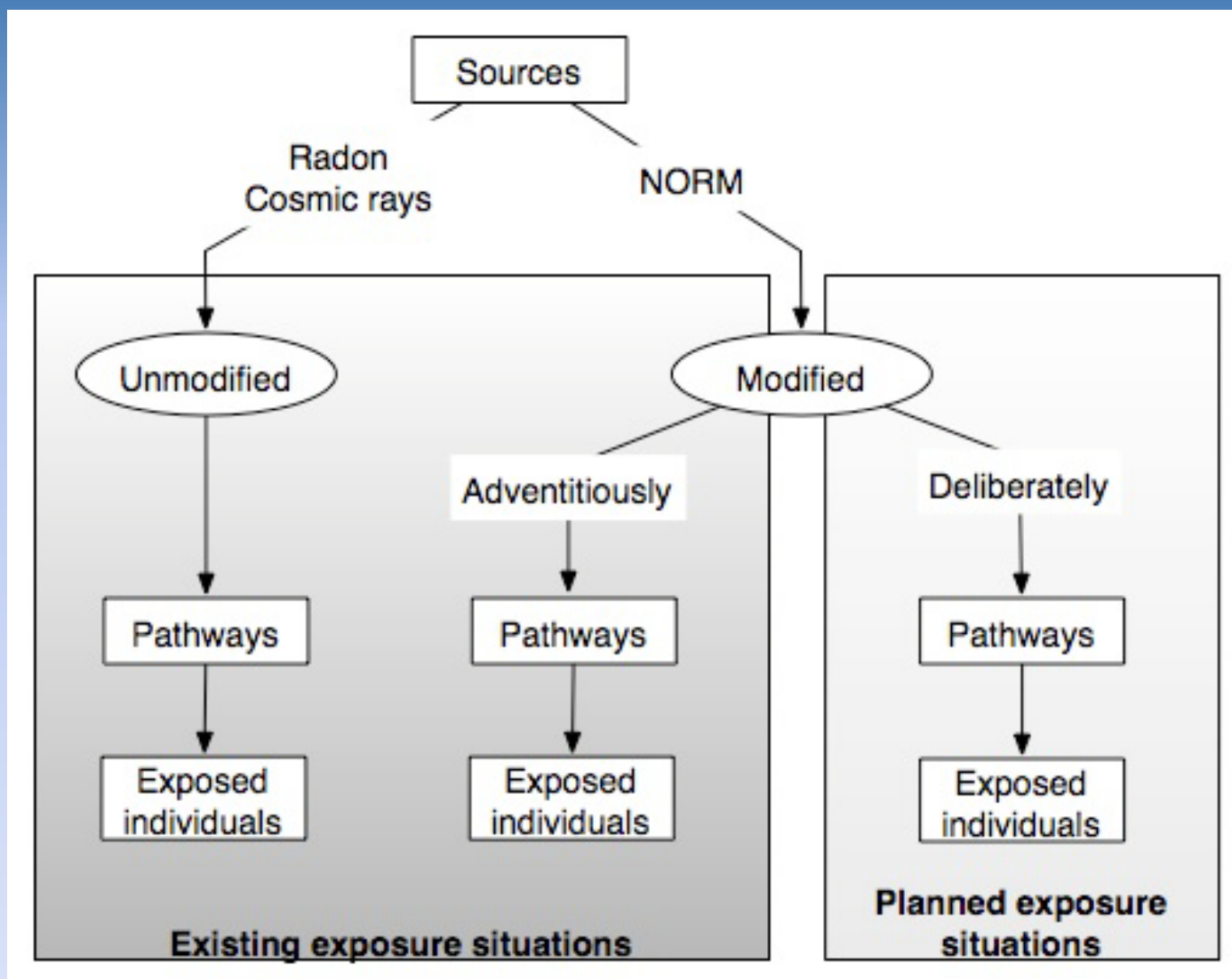
C4 Programme of work

- **TG 71** Protection in security screening (Don Cool)
- **TG-76** Protection against enhanced exposures from industrial processes using NORM (Peter Burns)
- **TG 80** Protection in geological disposal of long-lived solid radioactive waste (Wolfgang Weiss) – **In consultation**
- **TG-81** Protection against radon exposure (Jean-François Lecomte)
– **Adopted by the Committee**
- **TG-82 (C4/C5)** Application of the ICRP approach to environmental protection (Jan Pentreath)
- **TG 83** Protection of aircraft crew against cosmic radiation exposure (Jacques Lochard)
- **Working Party** The concept of radiation risk within the system of radiological protection

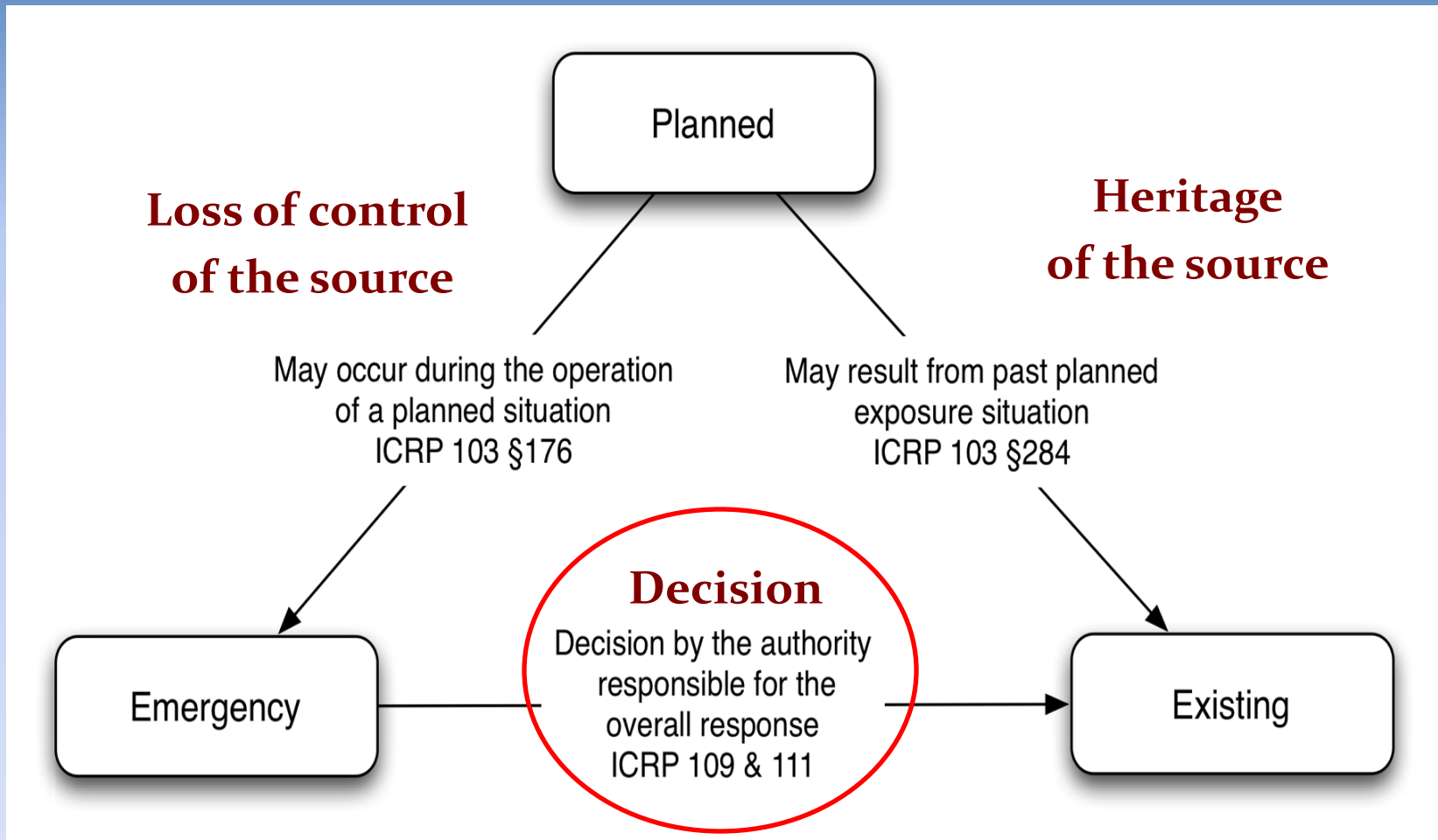
Characteristics of the source and the exposure situations

	Source
Planned	Deliberately introduced and fully under control
Emergency	Loss of control or unexpectedly introduced
Existing	Already there when decision to control

Exposure to natural radiation



Transitions between the exposure situations

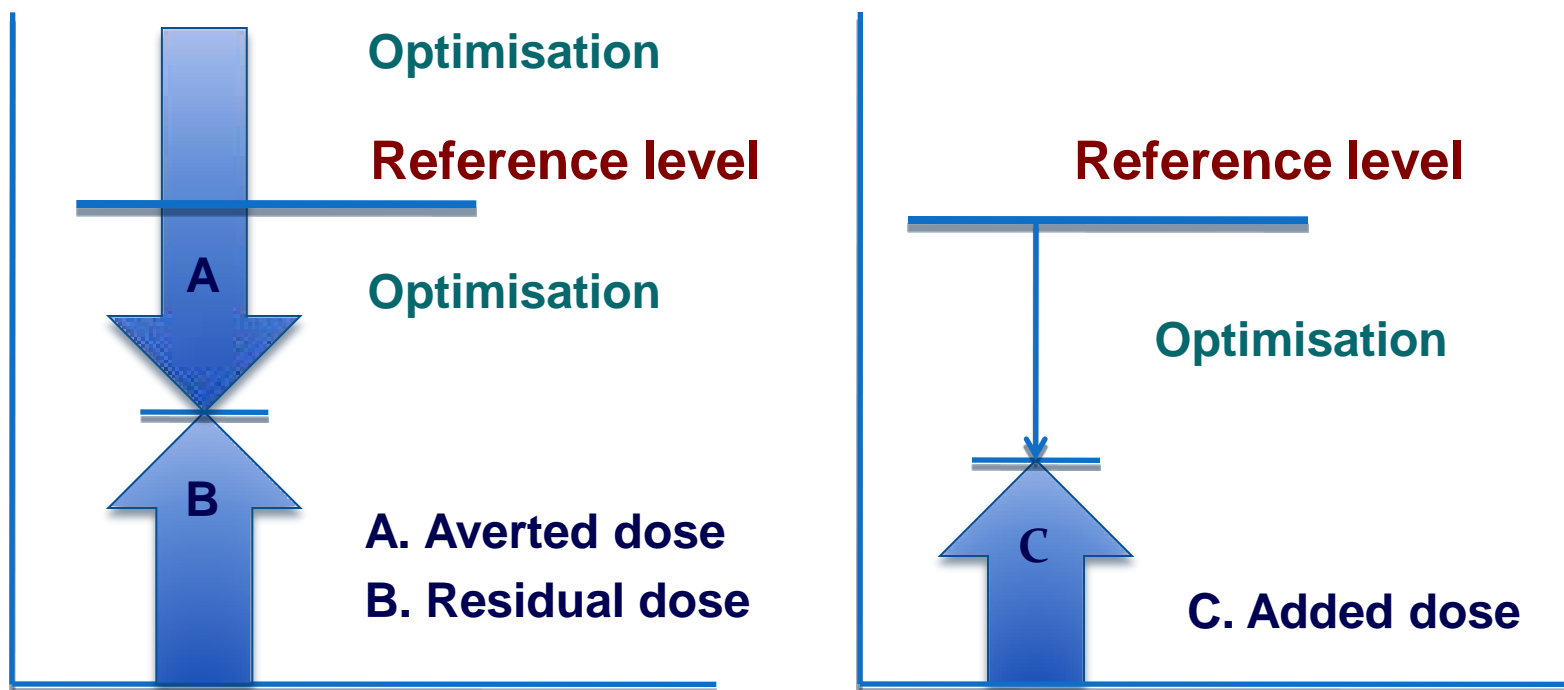


The optimisation principle

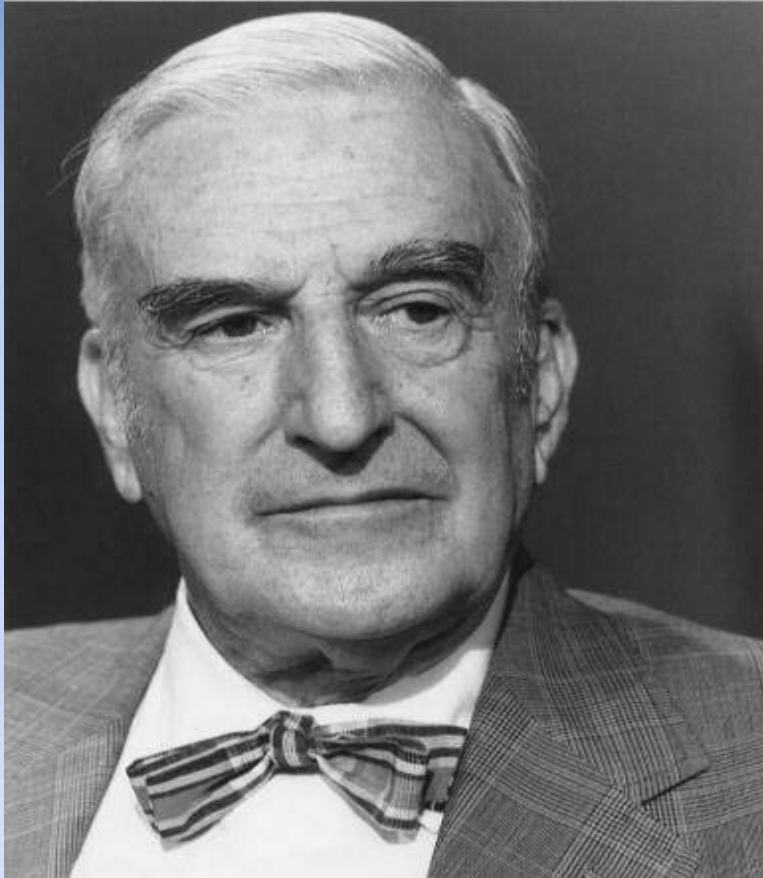
Emergency and existing exposure situations

Mitigation

Prevention



Ethics and values



"Radiation protection is not only a matter for science. It is a problem of philosophy, and morality, and the utmost wisdom."

Lauriston S. Taylor (1902 – 2004)

The Philosophy Underlying
Radiation Protection

Am. J. Roent. Vol. 77, N° 5,
914-919, 1957

From address on 7 Nov. 1956

Two key values underlying the radiation protection system

- **Prudence (Precautionary principle)** : to respond to the uncertainties concerning stochastic effects at low doses. **Adoption of the LNT model**
Long ethical tradition (*Phronesis by Aristotle*). How to behave without the full knowledge of the consequences of our actions? – **Virtue ethics**
- **Equity/Fairness**: to ensure social justice, within the present generation and with respect to future generations (intergenerational equity)
Implementation of restrictions on individual exposures
Equity is a state of mind inspired by the willingness to promote justice. Equity does not mean equality but the search for an “equilibrium” between inequalities acceptable by those concerned - **Deontological ethics**

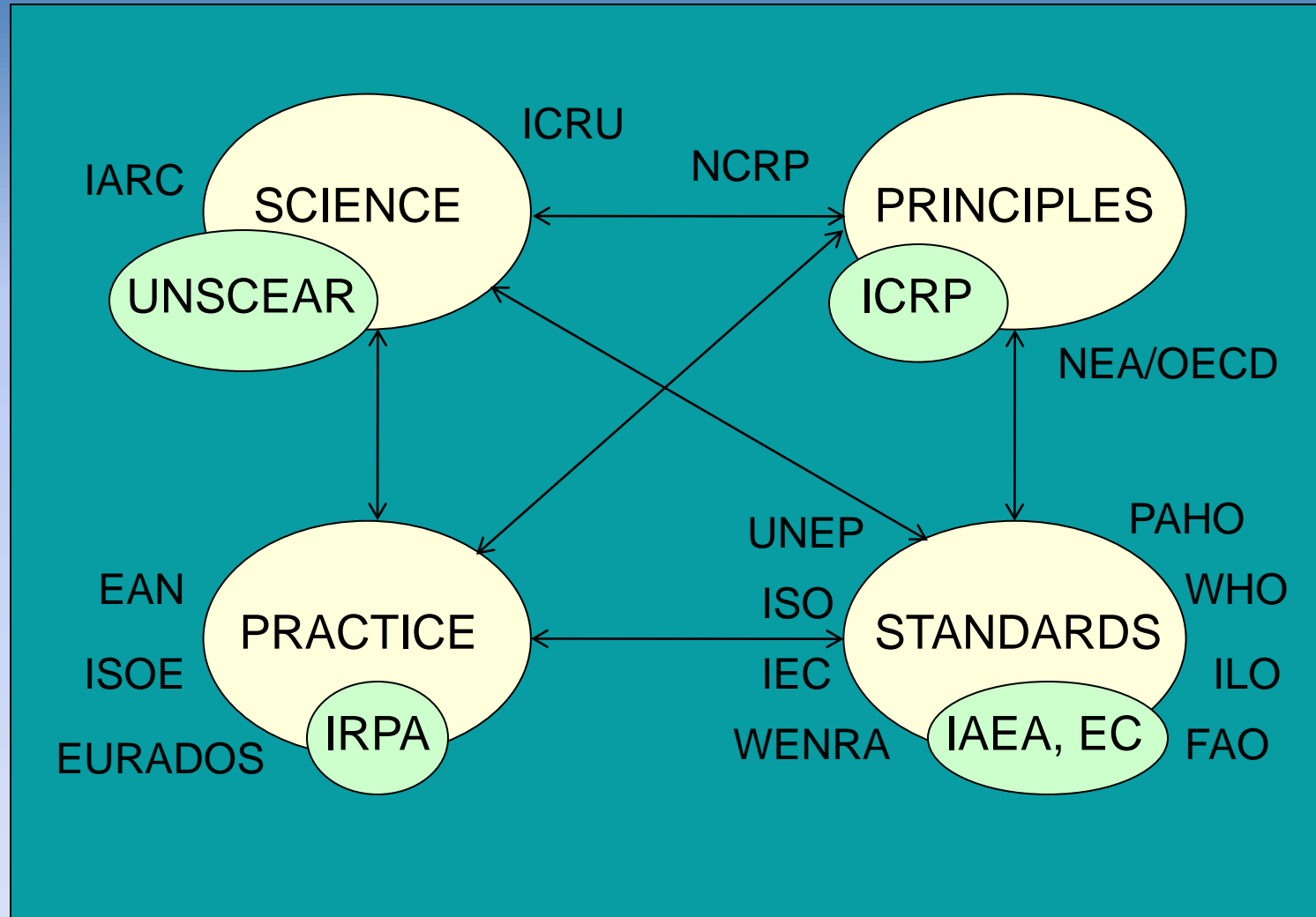
Toward an ethics of radiation protection

- The radiation protection system is a construction attempting to combine the respect of **individual rights** (**deontological ethics**), the furthering of **collective interest** (**utilitarian ethics**) and the promotion of **wisdom and discernment** (**virtue ethics**)
- *“The ethics of radiation protection is a new field of applied ethics. It is a highly promising one, both from a theoretical and a practical perspective”*. **Hansson, 2007**

Dialogue and cooperation with international and professional organizations

- Committee 4 observers fully participate in discussions
- Committee 4 observers are corresponding members in Task Groups when relevant
- Development of concrete actions in common whenever possible
 - e.g. Joint NEA/CRPPH – ICRP forum on radiation protection and ethics at IRPA 13, Glasgow, May 2012

The network of global radiation protection



Committee 4 and Fukushima

- ICRP Publications 109 and 111 (2009) largely served as reference for the management of the post–accident situation
- Participation at the International Expert Symposium in Fukushima on Radiation and Health Risks (11-13 September 2011)
- Mission in Belarus – Minsk, Bragin District and Gomel (29 September – 4 October 2011)
- Dialogue meeting on the Rehabilitation of Living Conditions after the Fukushima Accident : Lessons from Chernobyl and ICRP Recommendations in Fukushima (27 – 28 November 2011)
- Consideration of creating a Working Party on the consolidation of Publications 109 and 111 this week

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