

OPEN SUMMARY

2017 Meeting of Senior Representatives of Organisations in Formal Relations with ICRP

November 17, 2017

World Health Organisation Headquarters, Geneva, Switzerland

Present

International Commission on Radiological Protection (ICRP): **Claire Cousins** (Chair), **Jacques Lochard** (Vice-Chair), **Christopher Clement** (Scientific Secretary), **Donald Cool** (C4 Chair, Main Commission), **Dominique Laurier** (Main Commission), **Werner Rühm** (C1 Chair, Main Commission)

Conference of Radiation Control Program Directors (CRCPD): **David J. Allard**

European Nuclear Installations Safety Standards Initiative (ENISS): **Bernd Lorenz**

European Platform on Preparedness for Nuclear and Radiological Emergency Response and Recovery (NERIS): **Christophe Murith**

European Radiation Dosimetry Group (EURADOS): **Werner Rühm**

European Radioecology Alliance (ALLIANCE): **Jacqueline Garnier-Laplace**

Heads of the European Radiological Protection Competent Authorities (HERCA): **Karla Petrova**

International Atomic Energy Agency (IAEA): **Miroslav Pinak**

International Labour Organisation (ILO): **Shengli Niu**

International Radiation Protection Association (IRPA): **Eduardo Gallego**

Multidisciplinary European Low Dose Initiative (MELODI): **Jacques Repussard**

OECD Nuclear Energy Agency (NEA): **Ted Lazo**

United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR): **Ferid Shannoun**

World Health Organisation (WHO): **Joy St John** for the opening, **Emilie van Deventer**, **Maria del Rosario Perez**, **Zhanat Carr**

World Nuclear Association (WNA): **Marcel Lips**

Regrets

European ALARA Network (EAN)

European Commission (EC)

Ibero American Forum of Radiological and Nuclear Regulatory Organisations (FORO)

IEC Radiation Protection Instrumentation (IEC/SC45B)

IEC Electrical Equipment in Medical Practice (IEC/TC62)

IndustriAll Global Union's International Network (INWUN)

Information System on Occupational Exposure (ISOE)

International Commission on Radiation Units and Measurements (ICRU)

National Council for Radiation Protection and Measurements (NCRP)



Participants of the 2017 Meeting of Senior Representatives of Organisations in Formal Relations with ICRP, November 17, 2017, WHO HQ, Geneva, Switzerland

Left–Right: Marcel Lips, Jacqueline Garnier-Laplace, Ferid Shannoun, Dominique Laurier, Dave Allard, Jacques Lochard, Donald Cool, Christophe Murith, Ted Lazo, Claire Cousins, Karla Petrova, Christopher Clement, Bernd Lorenz, Werner Rühm, Miroslav Pinak, Emilie van Deventer, Jacques Repussard, Shengli Niu. In front: Maria Perez, Zhanat Carr, Eduardo Gallego.

Meeting Summary

ICRP Chair Claire Cousins welcomed all present, and thanked WHO for acting as host.

WHO Deputy Director General Joy St John made welcoming remarks.

Each meeting participant introduced themselves.

Emilie van Deventer presented the World Health Organisation.

Jacques Lochard described the structure of the meeting, and introduced the two questions of focus for the day.

In June 2017, ICRP released a document on Areas of Research to Support the System of Radiological Protection to present ICRP's views and to encourage dialogue and help focus research initiatives (circulated in advance).

Within one of the ten areas in this document, it was emphasised that "ethical and social values are appropriately applied in circumstances of occupational, public, environmental, and medical exposures to achieve acceptable and sustainable decisions". Related to this, ICRP has just approved for publication the report 'Ethical Foundations of the System of Radiological Protection', developed through open regional workshops, advanced drafts of which were widely circulated for two rounds of comment.

Q1. What are the views of your organisation on research needed to support the system of radiological protection, and do you have feedback for future versions of the ICRP document on this subject?

Q2. How can the ethical values identified by the Commission inform radiological protection and risk management given differences in individual sensitivity to radiation related to sex, age, genetics, lifestyle, and other factors?

Written summaries from organisations were circulated in advance, and each organisation present was invited to make brief remarks on these questions.

Participants were divided into two breakout groups as follows:

Breakout Group 1

Moderator: Eduardo Gallego

Rapporteur: Jacqueline Garnier-Laplace

ALLIANCE, EURADOS, HERCA, IAEA, ICRP (Cousins, Clement, Laurier), ILO, IRPA, WHO (van Deventer), WNA

Breakout Group 2

Moderator: Jacques Repussard

Rapporteur: Ted Lazo

CRCPD, ENISS, ICRP (Lochard, Cool), MELODI, NEA, NERIS, UNSCEAR, WHO (Lopez, Carr)

Rapporteurs Jacqueline Garnier-Laplace and Ted Lazo summarised the results of the discussions of the breakout groups. Despite having worked separately, there was considerable overlap in the discussion, and agreement between the groups. A few points raised in the afternoon plenary discussion follow.

- Individual radiation sensitivity, broadly defined, was discussed extensively by both groups, in terms of the current state of knowledge, the ethical questions, and the terminology.
- Natural background may be a useful benchmark in public communications. This could help develop a narrative about radiation based on the various components (radon, cosmic, etc.) and variability in natural background to put other radiation exposures in context.
- A question raised was the extent to which the system of radiological protection should impose or promote global harmonisation vs. allowing national authorities room to make judgements, for example in setting numerical criteria. A balance must be found, and a distinction must be made between the system and its implementation.
- The document on Areas of Research to Support the System of Radiological Protection has been well received by the research community.

Considering the last point, it was suggested that there may be merit in combining the first two listed areas of research to cover “effects of protracted exposures and low dose rates, and dose-response models”. Health effects at low doses (<100 mGy) and low dose-rates (< 5 mGy/h) are generally not discernible in epidemiological studies but are inferred based on biological plausibility and quantitative estimates obtained using risk extrapolation models, the simplest of which is the LNT model used for protection purposes. There is a need for studies of population groups exposed as workers, patients, or public to provide information relating to protracted exposures to moderate doses and low dose rates from external sources and internally deposited radionuclides. There is also a need for further studies of mechanisms of low dose effects at molecular, cellular and tissue levels and the development of dose-response models that take account of these mechanisms. Biological samples of normal and diseased tissues taken during epidemiological and experimental studies have the potential to link molecular changes to observed health effects.

In addition, a new research area was proposed related to nuclear and radiological emergency preparedness, response and recovery. The experience of Fukushima has highlighted the need to develop more effective approaches and tools to characterize the radiological situation resulting from an emergency and to implement the optimisation of protection during the emergency and recovery phases, particularly concerning the decontamination of affected areas.

This and other feedback will be taken into account when the Main Commission next revisits ICRP advice on Areas of Research to Support the System of Radiological Protection, likely during 2018.

Jacques Lochard made brief concluding remarks, emphasising the importance of:

- individual sensitivity, to explore the science, and anticipate the ethical considerations;
- the tolerability of risk model to include existing and emergency exposure situations; and,
- education and training to improve, in the long term, general understanding of radiation by the public and the history of radiological protection.

Claire Cousins closed the meeting by thanking all participants, and the host WHO.