Overview of work of ICRP and Task Group 97

ICRP Workshop on
Surface Disposal of Radioactive Waste
| November 6, 2017 | Fukushima

T Pather
Chair TG 97
This presentation has neither been approved nor endorsed by the Main Commission of ICRP.

The views and thoughts in this presentation represent the author’s personal opinions.
ICRP

• ICRP was founded in 1928, International X-ray and Radium Protection Committee

• Renamed International Commission on Radiological Protection ICRP in 1950

• Registered charity UK for last 30 years
ICRP Mission

Advance **for the public benefit** the science of radiological protection, in particular by providing recommendations and guidance on all aspects of protection against ionising radiation.
Aim of the Recommendations

Contribute to an *appropriate level of protection* for people and the environment against the detrimental effects of radiation exposure without unduly limiting the desirable human actions that may be associated with such exposure.
System of Radiological Protection

- Most recently updated in *ICRP Publication 103* (2007)

- Based on science, value judgments, and experience

- Forms the basis of radiation safety standards, legislation, guidance, programmes, and practice worldwide
Protection of People

Manage and control exposures so that:

• Deterministic effects (harmful tissue reactions) are prevented

• The risks of stochastic effects (cancer or heritable effects) are reduced to the extent reasonably achievable
Protection of the Environment

Prevent or reduce effects to have a negligible impact on:

- the maintenance of biological diversity
- the conservation of species
- the health and status of natural habitats, communities and ecosystems

*Noting that exposure to radiation is but one factor, often a minor one*
An independent, international community of experts in radiological protection
More than 240 experts in radiological protection science and policy from 33 countries and six continents
Integration of Environment in each area during 2013-2017 Term

Main Commission

Committee 1 Effects
Committee 2 Doses
Committee 3 Medicine
Committee 4 Application
Committee 5 Environment

Scientific Secretariat

TASK GROUPS
Structure for 2017 - 2021 Term

Main Commission
- Committee 1 Effects
- Committee 2 Doses
- Committee 3 Medicine
- Committee 4 Application

Scientific Secretariat

Task Groups

Committee 4: Development of principles and recommendations on radiological protection of people and the environment in all exposure situations

AS OF JULY 1, 2017
# ICRP Membership

<table>
<thead>
<tr>
<th>2013-2017</th>
<th>2017-2021</th>
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<tbody>
<tr>
<td>82 Total Members</td>
<td>75 Total Members</td>
</tr>
<tr>
<td>65 Male</td>
<td>56 Male</td>
</tr>
<tr>
<td>17 Female (21%)</td>
<td>19 Female (25%)</td>
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38% new members for the coming term
New Committee Mandates

- Committee 1: considers the effects of radiation action from the subcellular to population and ecosystem levels, including the induction of cancer, heritable and other diseases, impairment of tissue/organ function and developmental defects, and assesses implications for protection of people and the environment.

- Committee 2: develops dosimetric methodology for the assessment of internal and external radiation exposures, including reference biokinetic and dosimetric models, reference data, and dose coefficients, for use in the protection of people and the environment.
New Committee Mandates

- Committee 3: addresses protection of persons and unborn children when ionising radiation is used in medical diagnosis, therapy, and biomedical research, as well as protection in veterinary medicine.

- Committee 4: provides advice on the application of the Commission's recommendations for the protection of people and the environment in an integrated manner for all exposure situations.
Active ICRP Task Groups

TG36 Radiopharmaceuticals
TG64 Cancer Risk from Alpha Emitters
TG72 RBE and Reference Animals and Plants
TG74 Dosimetry for Non-human Species
TG76 NORM
TG79 Effective Dose as a Risk Related RP Quantity
TG89 Occupational RP in Brachytherapy
TG90 Age-dependent Dose Coefficients for External Exposures to Environmental Sources
TG91 Radiation Risk Inference at Low-dose and Low-dose Rate Exposure for Radiological Protection Purposes
TG93 Update of Publications 109 and 111
TG94 Ethics of RP
TG95 Internal Dose Coefficients
TG96 Computational Phantoms and Radiation Transport
TG97 Surface and Near Surface Disposal
TG98 Contaminated Sites
TG99 Reference Animals and Plants Monographs
TG100 ICRP Reflection Group on NCRP CC1
TG101 RP in Radiopharmaceutical Therapy
TG102 Detriment Calculation Methodology
TG103 Mesh-type Reference Phantoms
TG104 Integration of Protection of People and of the Environment
TG105 Considering the Environment when Applying the System of RP
TG106 Mobile High Activity Sources
Development of principles and recommendations on radiological protection of people and the environment in all exposure situations

- A holistic and integrated view of all the benefits and impacts should include appropriate consideration of protection of both people and the environment
- There remains work to be done to bring to fruition a consistent and coherent approach to the justification and optimisation in any particular exposure situation
- Committee 4:
  - Produce application reports
  - Assist other Committees with application viewpoint
New Committee 4

• New Terms of Reference for Protection of People and the Environment

• Goals
  • Continue and complete works from 2013-2017
  • Integrate Environment in System of Protection, and move forward with key topics for implementation
  • Begin Foundations development – Explore topics from MC Strategic Discussion
  • Support consistent consideration of application in interactions with other Committees.
2017-2021 Program Themes

- Existing Exposure Situations
- Response to Fukushima
- Environmental Protection
- Foundations and Fundamentals
- Topical Application Reports
2017-2021 Program Themes

- Existing Exposure Situations
- Response to Fukushima
- Environmental Protection
- Foundations and Fundamentals
- Topical Application Reports
  - TG97 Surface and Near Surface Waste Disposal
TG 97 Terms of Reference

- Scope: surface and near surface disposal of radioactive waste

- Prepare a publication, in conjunction with the waste management community complement to Publication 122.

- Clarifies the application of the Commission’s recommendations for protection of the public, workers and environment

- Plain language

- Drafted as a standalone document in coherence with Publication 122 without unnecessary repetition.
The publication will discuss:

- Application of the fundamental radiation protection principles over the life cycle of surface and near surface disposal
- transitioning from planned exposure to existing exposure situation in the case of a loss of institutional control.
- graded approach in implementing the protection principles and
- advice in all facets of a facility’s life cycle, based on the hazard posed,
- the degree of isolation of the waste.
- Dialogue amongst regulators, implementers and relevant stakeholder’s
- Update recommendations in *Publications 46, 77, and 81*, taking into account recent international experience.
TG 97 Members

Full Members:
- Thiagan Pather, South Africa (Chair)
- Francois Besnus, France
- Christeopher McKenney, USA
- Jean-Paul Minon, Belgium
- Behnam Taebi, Netherlands
- John Takala, Canada

Corresponding Members:
- Takeshi Iimoto, Japan
- Gloria Kwong, NEA
- Carl-Magnus Larsson, Australia
- Philip Metcalf, South Africa
- Andrew Orrell, IAEA