Contents

• What is ICRP?

• ICRP Recommendations

• ICRP Dialogue Seminar
History of ICRP

- International X-Ray and Radium Protection Committee (IXRPC) was established in 1928 by the International Congress of Radiology.

- IXRPC was restructured and renamed as International Commission on Radiological Protection (ICRP) in 1950.

- ICRP provides recommendations and guidance on protection against ionising radiation.
ICRP Structure

ICRP Main Commission

Committee 1  
Effects

Committee 2  
Doses

Committee 3  
Medicine

Committee 4  
Application

Committee 5  
Environment

Scientific Secretariat

Task Groups

Task Groups

Task Groups

Task Groups

An independent, international community of experts in radiological protection

Nearly 250 experts in radiological protection science and policy from 32 countries and six continents
Roles of Organisations

UNSCAR → Doses and Effects → Scientific Evidence

ICRP → Philosophy and Policy → Paradigm

IAEA → Regulatory Practicalities → Standards
Contents

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Aim of ICRP Recommendations

To 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

(ICRP Publication 103)
Health Effects of Radiation

Deterministic Effects

Stochastic Effects

Frequency

Dose

Threshold

Frequency

Dose
Protection of Human Health

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
Principles of Protection

- **Justification**
  Any decision that alters the radiation exposure situation should do more good than harm.

- **Optimisation**
  The likelihood of incurring exposures, the number of people exposed, and the magnitude of their individual doses should all be kept as low as reasonably achievable, taking into account economic and societal factors.

- **Dose Limitation**
  The total dose to any individual from regulated sources in planned exposure situations other than medical exposure of patients should not exceed dose limits.
## Dose Limits

<table>
<thead>
<tr>
<th>Part of Body</th>
<th>Occupational</th>
<th>Public</th>
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<tbody>
<tr>
<td>Effective Dose (Whole Body)</td>
<td>20 mSv/a averaged over 5 years 50 mSv/a</td>
<td>1 mSv/a</td>
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<tr>
<td>Lens of the Eye</td>
<td>20 mSv/a averaged over 5 years 50 mSv/a</td>
<td>15 mSv/a</td>
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<tr>
<td>Skin</td>
<td>500 mSv/a</td>
<td>50 mSv/a</td>
</tr>
<tr>
<td>Hands and Feet</td>
<td>500 mSv/a</td>
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</table>
Exposure Situations

- **Planned Exposure Situation**
  involves the deliberate introduction and operation of sources

- **Emergency Exposure Situation**
  is unexpected and requires urgent action

- **Existing Exposure Situation**
  already exists when a decision on control has to be taken, including prolonged exposure situations after emergencies

Dose limits apply only to planned exposure situations
Protection of Emergency Workers

Category 1: Urgent action at the site
- Doses may voluntarily exceed limits for planned exposure situations
- Make every effort to keep doses < 1 Sv
  (Higher exposure may be justified for life-saving actions)

Category 2: Early protective actions, action to protect public
- Protection consistent with the system for planned exposure situations, where feasible

Category 3: Recovery operations
- Subject to the system for occupational exposure in planned exposure situations
Evolution of Situations after the Accident

- Lack of Control
- Uncertainty
- Dose Rate
- Potential Health Risk

Time

Exposure Situation
- Emergency
- Existing

Reference Level
- 20–100 mSv
- 1–20 mSv/a
In the Case of Fukushima

- **December 2011**
  Announcement of the stabilisation of the reactors

- **January 2012**
  Launching of the decontamination programme

- **April 2012**
  New regulation on contamination food and rearrangement of the restricted areas

From early 2012 the situation can be considered as an existing exposure situation.
Contents

- What is ICRP?
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Key Concepts in the Recovery phase

- Human Dimension
- Self-help Protection
- Radiation Protection Culture
- Stakeholder Engagement
Stakeholder Engagement

Authorities should facilitate the setting-up of local forums involving representatives of the affected population and relevant experts.

Such engagement (stakeholder engagement) is considered by the Commission to be key to the development and implementation of radiological protection strategies for most existing exposure situations.

(ICRP Publication 111)
Setting Up a Forum for Dialogue

ICRP + Radiation Safety Forum Japan

Concerned parties

ICRP Dialogue Seminar

Rehabilitation of living conditions after the Fukushima accident: Lessons from Chernobyl and ICRP recommendations
Participating Parties

- Local people
- Farm producers
- Authorities
- Distributors
- Consumers
- School teachers
- NPO
- Local media
- Experts
- Professionals
- Foreign rep
- ICRP
<table>
<thead>
<tr>
<th>Date</th>
<th>Place</th>
<th>Main subject</th>
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<tbody>
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<td>1 Nov 2011</td>
<td>Fukushima City</td>
<td>Problems in general</td>
</tr>
<tr>
<td>2 Feb 2012</td>
<td>Date City</td>
<td>Problems in Date</td>
</tr>
<tr>
<td>3 Jul 2012</td>
<td>Date City</td>
<td>Food production, distribution</td>
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<tr>
<td>4 Nov 2012</td>
<td>Date City</td>
<td>Education at school</td>
</tr>
<tr>
<td>5 Mar 2013</td>
<td>Date City</td>
<td>Returning (staying) or not</td>
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<td>6 Jul 2013</td>
<td>Fukushima City</td>
<td>Problems in Iitate</td>
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<td>7 Nov-Dec 2013</td>
<td>Iwaki City</td>
<td>Challenges in Iwaki</td>
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<td>8 May 2014</td>
<td>Minami-soma City</td>
<td>Problems in Minami-soma</td>
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<tr>
<td>9 Aug 2014</td>
<td>Date City</td>
<td>Raising children</td>
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</table>
6th Dialogue
(Fukushima City)

7th Dialogue
(Iwaki City)
Form of Meeting

Format

- Two-day programme
- Language: Japanese and English
- Facilitator: Jacques Lochard (ICRP Vice-Chair)

Program

- Self-introduction
- Presentations
- Dialogue
- Rapporteur’s report and discussion
Benefits of Dialogue

- Emphasised human dimension
- Involved diverse parties
- Helped share the experience
- Promoted understanding of the situation
- Facilitated mutual understanding and co-expertise
- Encouraged self-help activities based on measurements