



ICRP Work Shop on the Future of Radiological Protection, 19-20 October 2021

IRPA perspective on the Review of the System of Radiological Protection

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International Radiation Protection Association (IRPA)

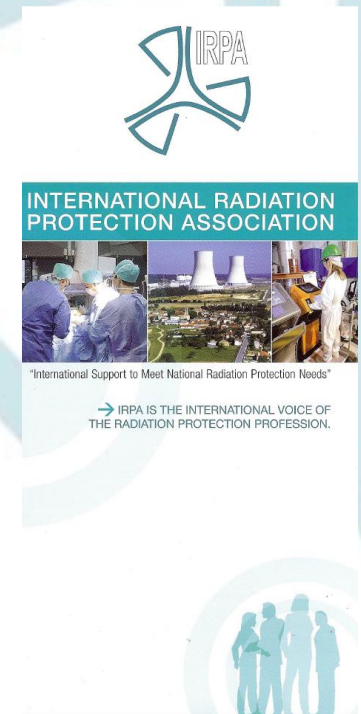
**The international professional association for
RP professionals since 1965**

53 Associate Societies

68 countries

over 18 000 individual members

*Enormous resources of practical knowledge
and experience in radiation protection
including scientists, operators, regulators,
medical practitioners and advisors.*



Covering a multicultural background, large and small societies



Role of IRPA

- To promote IRPA as the international voice of the RP profession through engagement with other international organisations and professional bodies.
- To support the needs of the Associate Societies by developing, enhancing and sharing good practices and high standards of professionalism.
- To support the education and training of RP professionals.



Effectiveness of the RP System

- In 2015 IRPA consulted with the Associate Societies on the broad effectiveness of the RP system and its ability to be widely communicated and understood by interested parties.
- Summary of outcome “ IRPA Consultation: is the system of protection fit for purpose and can it be readily communicated ? ” Views of the radiation protection professionals.
 - Journal of Radiological Protection 38 (2018)



Reasonableness in optimization

- IRPA consultation on Reasonableness in Optimisation of Protection in 2020:
 - Associate Societies and international organisations.
 - A paper “ IRPA Perspective on ‘Reasonableness’ in the Optimisation of Radiation Protection “ on IRPA website, www.irpa.net
 - Both these IRPA initiatives are a very important input to the revision of the RP system providing the perspective of the professionals who have to live with the system.



Reasonableness in optimization



IRPA
INTERNATIONAL RADIATION PROTECTION ASSOCIATION

IRPA PERSPECTIVE ON 'REASONABLENESS' IN THE OPTIMISATION OF RADIATION PROTECTION



1. Introduction and Background

2. Fundamental Considerations and Context

2.1. Radiation Protection Principles

2.2 Dose Response Model: LNT/Threshold

2.3 Ethical Values

2.4 Context of risks and natural background exposure

3. Principal Underpinning Factors for 'Reasonableness'

3.1. Judgement Call

3.2. Proportionality

3.3. Stakeholder Engagement

3.4. Holistic 'All Hazards' Approach

3.5. Avoidance of Over-Conservatism

3.6. Value for Society – Optimal Use of Societal Resources

3.7. De Minimis Approach

3.8. Alignment with Radiation Safety Culture



Task Group on the Review of the System of Radiological Protection

- Established in July 2021 to facilitate active IRPA involvement in the review process proposed by ICRP.
 - Sigurdur Magnusson, IRPA EC, chair
 - Bernard Le-Guen, IRPA president, vice chair
 - Claire-Louise Chapple, IRPA EC, vice chair
- The Task Group has 30 members from 20 AS representing thousands of RP professionals from all regions of the world.
- First task of the TG was to provide feedback on the ICRP “fit for purpose” paper.
- Feedback was received from 16 AS up to 5 October.



Areas of Strong Agreement

- IRPA welcomes the ICRP initiative to an open and transparent engagement and is generally supportive of the approaches outlined in the ICRP paper.
- **Complexity and communication**
 - the complexity of the RP system and the resulting challenge to its communication is a concern
 - the importance of communicating with the public on radiation and risk is stressed
 - the use of the context of natural background and its variability to improve the communication of radiation risk is encouraged.



Areas of Strong Agreement

- **Conservatism**
 - There is a concern that the RP system has become overly conservative and applications in the regulatory system are even more conservative.
- **Implementation of recommendations**
 - Recommendations must be implementable in the regulatory framework in a reasonable way.
- **Stability and justification for change**
 - Stability in recommendations is required.
 - Any change in recommendations must have a net positive benefit.



Areas of Strong Agreement

- **Ethics aspects**

- Strong support for ethics basis in recommendations.
- The review of the System should identify areas where explicit incorporation of the ethical basis alongside the scientific basis would be beneficial.
- Fully integrate publication 138 in explaining the RP System and pursue lines of communication on the basis of ethics rather than “the System”.



Areas of Strong Agreement

- There is strong support for:
 - improved clarity, consistency and transparent stakeholder engagement.
 - further explanation of ICRP intentions regarding protection of the environment and how and when this should be considered in practice.
 - inclusion of WHO health definition when considering detriment and benefit is supported.
 - Concern that using the WHO definition of health could be problematic to implement i.e., mental health effects resulting from exaggerated fear.



Areas of Strong Agreement

- Very strong support for a holistic approach to optimization and for recommendations to
 - stress that optimisation is not minimisation
 - promote use of reasonable caution avoiding undue conservatism
 - include non-radiation effects in risk/benefit consideration
- Practical recommendations for holistic approach to optimisation are needed.



Area of disagreement - LNT

- There needs to be a balance in managing risks at low doses so that the regulatory efforts and financial burden is commensurate with comparable risks in other industries.
- There is a concern that the LNT approach leads to unreasonable efforts at low doses and prevents practitioners from saying that a radiation practice is safe and. This may contribute to mental health impacts from fear of radiation.
- Can LNT be improved in the light of new research results? Are there alternative models that are tested and ready for use?



Area of disagreement - LNT

- Almost all AS support continued use of LNT as pragmatic/conservative approach while recognizing uncertainties at low doses.
- One AS proposes that the introduction of a low dose threshold is investigated, e.g., between 1 and 5 mSv, with planned exposures below this threshold subject to no regulatory governance.
- One AS strongly disputes statements made regarding evidence for and use of LNT in radiation protection.



Additional issues for ICRP to consider

- How to compare adequately chemical and radiation exposures.
- More consideration of the combined effects of radiological and chemical exposure should be provided, especially at low doses.
- More elaboration on uncertainties involved in estimating radiation dose and the total detriment is needed.



Direction of revision

- The next ICRP General Recommendation ?

A publication that

- begins with a short description of the ethical basis of radiation protection,
- continues with an extensive description of the recommended RP System
- ends with recommendations concerning the implementation of the System - **fit for purpose for the next two decades.**



In conclusion

- IRPA welcomes the inclusive approach taken by ICRP in developing new general recommendations.
- IRPA will participate actively in the revision of the ICRP general recommendations as the international voice of the RP profession providing the perspective of RP professionals.



Opportunities to discuss the future ICRP recommendation



RADIATION PROTECTION FOR EVERYONE

6th European Congress on Radiation Protection

30 May – 3 June 2022

Budapest Congress Centre /Budapest, Hungary





Opportunities to discuss the future ICRP recommendation

XII Congreso Regional IRPA de Protección Radiológica
y Seguridad Nuclear



Protección Radiológica: adaptándonos a nuevos escenarios
23 al 27 de Octubre 2022
Santiago, Chile.



**There will also be IRPA Regional
Congresses in Africa in October 2022
and Asia/Oceania in February 2023.**

For information see: www.irpa.net



Opportunities to discuss the future ICRP recommendation

**The IRPA16 International Congress hosted
by the US HPS in Orlando, Florida.**



Thank you very much !