



IRPA workshop on reasonableness in the implementation of
the ALARA principle
Paris, 23-24 February 2017

ALARA
What does 'reasonable' mean?

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IRPA Consultation on the System of Protection

Objective: To develop views from the practitioners on how best to improve the presentation of the system of protection so that it better meets the challenges of communication and understanding

Output:

- The views of the professionals should be shared with all those international organisations who are stakeholders in the system of protection in order to help guide its future development where appropriate.
- Secondly, the views should guide IRPA's considerations on our developing approach to public understanding and the communication of radiation and risk.



IRPA Consultation on the System of Protection

Issues

- *General Perceptions: Complexity, Reliance on caveats and 'small print'*
- *Uncertainty in low dose risk*
- *Context of Natural Background*
- *Dose Limitation and Dose Limits*
- *ALARA and 'Reasonable'*
- *Wider public health context*
- *Communication and Public Understanding*



ALARA and Reasonableness

It is universally accepted that ALARA is the main central pillar for the practical implementation of radiation protection, and is the dominant force controlling exposures in any well-developed system of protection.

The degree of ALARA maturity varies from sector to sector.

ALARA is a potentially complex process, with the major players being the operating organisation and the impacted stakeholders, ideally under regulatory scrutiny and challenge.

It is not always easy to identify how or why particular decisions are made, and it is possible that in some situations improvements in visibility of decision-making could be helpful.



ALARA and Reasonableness (2)

- Reliance on subjective judgement
- What does CBA add?
- Is an 'overly simplistic approach', perhaps plus natural regulatory caution, leading to continuing expectations of ever lower doses??
- How low is 'low enough'??

SFRP suggested that this needs further reflection



Beware!

The rest of this presentation is a personal view

- you may well disagree!!



ALARA Fundamentals

The LNT Hypothesis: LNT is the fundamental underpinning of ALARA

Personal view:

Entirely appropriate at many mSv/y, with cumulative doses of many 10s/100s mSv

But most exposures of practical interest are a few mSv/y at most – often much less

- i.e. well within the range of natural background and its variability
- Such exposures make no material difference to the overall radiation exposure pattern of society or individuals
 - [Although need to think about collective dose from diagnostic medical]



ALARA at low doses

How does society judge exposures and risks at these levels?

- LNT assumed risks are one part of the picture
 - but beware comparing assumed/possible risks with real known risks

What else needs to be taken into account?

- Align with a more pragmatic and holistic approach to how we deal with risks that are generally regarded as 'safe' [in the common sense usage of this word!]

This workshop should consider what this means in practice



Factors to take into account (1)

Basic understanding of decision-makers and stakeholders

- *Do they really understand the context of the exposure, and how it fits into radiation exposure in daily life?*

To get the best outcome it is necessary to ensure that all the relevant parties have an appropriate and full understanding of the options and the implications



Factors to take into account (2)

Ethical considerations

- **Prudence:** it is really 'good judgement', but it has come to be interpreted as 'always err on the side of caution'.
 - This can lead to a mindset of 'ever lower doses – irrespective of how low'
- **Dignity:** involve those affected by the decision to be made
 - This does not always mean big stakeholder exercises. Many practical situations just involve simple discussions
- **Beneficence:** in its broadest interpretation, this means 'doing the best with society's resources'
 - Society has a limited resource: If resource/money is spent on reducing doses, then that money cannot be used elsewhere to gain benefits
 - How do we get the 'biggest bang for the buck' from society's resources?
 - Is spending resource on reducing already low doses good value for society?



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Factors to take into account (3)

Radiation Protection Culture

- Much practical ALARA can be addressed within a culture mindset
- It's a way of thinking, and should not cost much in terms of time, trouble and effort

This is where the ALARA focus should be at low doses.



ALARA and Reasonableness

The key challenges

- At low doses it is not primarily about risk and tolerability
- It is about a common-sense holistic approach within an informed decision-making group
- Use a 'culture mindset'
- We must move away from an expectation of 'ever lower doses'
 - This just reinforces the perception that (man made) radiation is uniquely harmful
- Think about society's resources – how do we get the best overall value out of our decisions?



The ALARA Workshop

ALARA is important to our RP system – it is the cornerstone

I hope this presentation has given some ideas

Lets make a difference during our two days of discussion!