

Possible New Aspects of Finnish Radiation Protection Legislation

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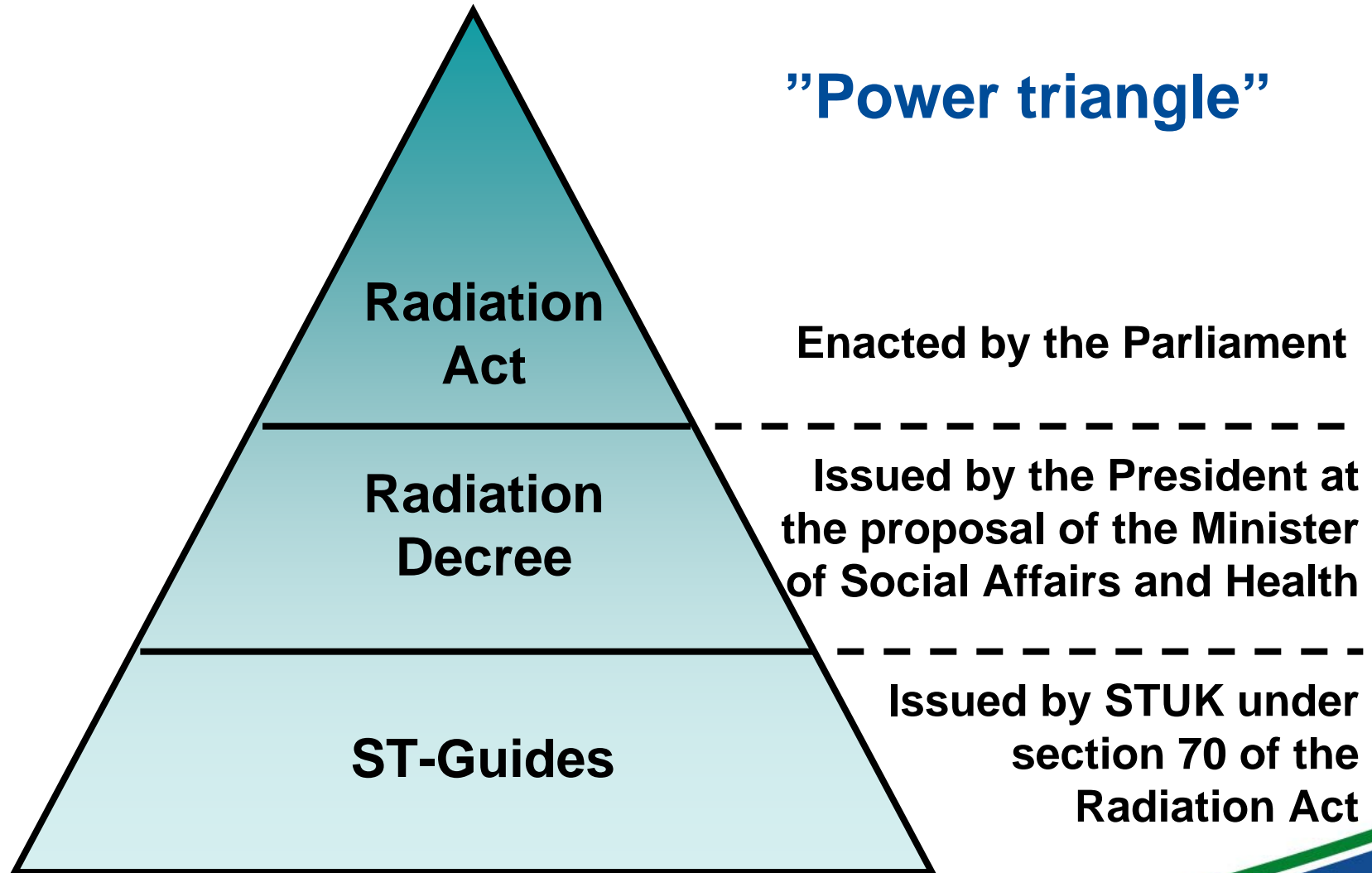
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**Neue Erkenntnisse zur Wirkung der Sthralung auf den
Menchen - Die neuen ICRP- Empfehlungen
EU-Konferenz im Hotel Berlin, 19. Juni 2007**

Radiation Safety Legislation in Finland



Development of Finnish radiation safety regulations

- In the past, the regulations were developed taking directly into account the ICRP recommendations, last major revision 1992
- From 1995, the regulations are based on EU-provisions (Euratom treaty)
 - Council regulations and decisions
 - Council directives (transposed to national legislation)
 - Commission recommendations (not legally binding)



=>

**There is a need to update our legislation -
several reasons**

**The new 2007 ICRP recommendations -
catalyser**



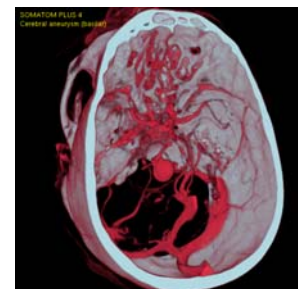
Debate on the Hierarchy of the regulatory system

- IAEA missions
- Development in administrative legislation
 - requirements should be on correct level of “Power triangle”



Evolution of the operational environment

- Technical development
 - especially in Medical sector
- Development in businesses
 - global competition





The new ICRP 2007 - Finnish legislation ?

- Basic concepts are there already now
- Working system for radiation protection is there

Consequences of changes in the definitions

- Planned, emergency, existing exposure situations
- Projected dose - residual dose - adverted dose - reference level - optimisation
- Need to update regulations - communication - challenge



The concept of constraints and reference levels

- Basics for the constraints in the legislation
- New ICRP gives more weight for the concept
- Kick for further development of our regulations/guidance
 - important role of optimisation
- Who is setting what and in which situation?
 - regulatory authority
 - organisation on operation level
- Concept has to be build in clear way on national level
 - again - communication is challenge



Weighting factors w_T and w_R

- Some slight changes
 - breast 0.05 ... 0.12 - mammography screening in discussion
- Mammography in Finland
 - screening every second year for age groups between 50 - 69
 - last update in policy was in beginning 2007 - extension to age groups between 60 - 69
 - debating to extend into age groups between 40 - 49 ... **not justified**



Radon issues

- Reference levels in the new 2007 ICRP recommendations are conservative - Dwellings 600 / Workplaces 1500 Bq/m³
- ICRP message: “ It is the responsibility of the appropriate national authorities, as with, other sources, to establish their own national reference levels,...”
- Tendency in international discussion
 - direction to lower values
- Long term research and regulatory base in Finland
 - mapping of radon prone areas has been made
 - building codes for guidance available
 - levels for new dwellings 200 Bq/m³ and workplaces 400 Bq/m³
- ? gap in reference levels - ICRP/national





Protection of the environment

- Welcome
- Euratom projects
 - ERICA , FASSET - giving base for the assessing methods
 - research projects needed in this phase
- How to implement in legislation
 - difficult at the moment, no ready concepts available
 - something on general level
- Research on all levels essential





Evolution in operational environment

- There is a need to evaluate if the focus of the requirements is correct
- An important wake up call to from ICRP:
- The new 2007 ICRP recommendations speak out in several paragraphs of the importance of the **clear assignment of the responsibilities** for protection and safety

Evolution in the business

Licensee's, specially in medical sector

- larger operational units or many separate units
- operational units are on geographically wide area

Licensee's, specially in industrial sector

- cutting off larger units to smaller operational units and also outsourcing
- radiation sources still there, owners and users are separate organisations

=> Responsibility of radiation safety may become unclear.

Practices with more than one operator

- Operations like service are typically separated from licensee's main business and use of subcontractors is increasing.
- Responsibility of radiation safety may become unclear.



- ⇒ More detailed description is required about the division of responsibilities and duties between involved operators.
- ⇒ Reflections to our regulations



Education and Training

ICRP messages:

- “ The important issues are that radiological questions are addressed properly, that the appropriate expertise is available, and that decisions concerning radiation safety cannot be unduly influenced by economic or other non-radiological considerations.”
- “ ..adopt a regulatory regime that places a more explicit responsibility to the user, and forces the user to convince regulatory authority that adequate protection methods and standards are used and maintained.”



Education and Training

- Important part of the radiation protection system
- basic education should be available
- qualifications for the specialists should be defined
- supplementary education should be available
- responsibilities of all parties should be clear
- National education system
- responsibilities shall be updated
- need for negotiations between responsible authorities, universities, high schools, private training organisations
- reflections on the legislation and regulations ?





Parallel development of IAEA and EU BSS

- IAEA BSS
 - combined efforts by several parties IAEA, EU, ILO, WHO, NEA, ...
- EU BSS
 - ICRP contribution
 - IAEA discussions - reflections
 - intention to combine directives
 - improvements / correct deficiencies
 - own needs in EU
 - e.g. NORM regulation
 - changes in operational environments - regulatory framework
 - need for harmonisation
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Like a wing of the butterfly ...

- "The butterfly effect is a phrase that encapsulates the more technical notion of sensitive dependence on initial conditions in chaos theory"

- ICRP



- IAEA (EU, NEA, WHO, ILO...)



- EU



- National level in Finland



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Thank you for your attention

