Reflections on ALARA in RP training

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All human activities meeting economic or social requirements includes an element of risk. A balance must be found.
Risk to the workers

- Fall, slip, trip
- Psychological
- Noise
- Ionising radiation
- Non Ionising radiation
- Extreme working conditions
- Ergonomical
  - Strain
  - Human Error
- Mechanical
  - Vibration
  - Failure
- Chemical
  - Toxic
  - Flammable
  - Corrosive
  - Cancerogenic
- Fire and explosion
- Electrical
  - Fire
  - Electrocution
Risk to the public and the environment
Ionising radiation

- Ionising radiation is part of the risk spectrum related to human activity
- How can we manage the risk in all exposure situations, existing, planned and emergency?
  - Recommendations ICRP
    - Justification
    - Optimisation
    - Dose limits
  - Guidance by International Organisations
  - National legislation
- Good practices for the protection of the workers
- Good practices for the protection of the public
- Safety cultures to manage the risks
  - Industrial safety culture
  - RP culture
  - ALARA culture (at the heart of RP culture)
  - Security culture
Education and training of the stakeholders

Stakeholders engagement and participation

- Competent authorities
- Licensees
- Manufacturers, suppliers and designers
- Radiation protection professionals
- Exposed workers
- The public
ALARA is an obligation of means and not an obligation of results.
Synthesis of the main Elements of ALARA culture

- Attitudes and behaviour
- ALARA Culture
- Stakeholders engagement and participation
- Radiation risk awareness
Education and training of the stakeholders
some reflections

Manufacturers, supplier and designers

competent authorities

Workers

Licensees and managers

Public

RP professionals
Competent authorities

Education and training of the stakeholders

- Manufacturers, supplier and designers
- Workers
- Public
- Licensees and managers
- RP professionals

The fundamentals of RP
How to implement and evaluate an RPP, RP culture and ALARA culture
How to facilitate the public involvement
Communication of risk to the public
Tolerability of risk
Ethical and societal aspects
Licensees and managers

Education and training of the stakeholders

- Manufacturers, supplier and designers
- Workers
- Public
- RP professionals

- Competent authorities
- Licensees and managers

- RP basics
- Understanding ALARA
- How to foster an ALARA culture
- Responsibilities RPP an ALARA
- How to foster a safety culture

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- Manufacturers, supplier and designers
- Workers
- Public
- Education and training of the stakeholders
- Competent authorities
- Licensees and managers
- RP professionals

- Understanding Risk
- Understanding RP basic
- Tolerability of risk
- Ethical and societal aspects
Workers

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Education and training of the stakeholders

- Manufacturers, supplier and designers
  - Understanding RPP
    - Why
    - How
  - Resources
  - Responsibilities RPP an ALARA
  - Training
  - How to foster an ALARA culture
  - How to foster a safety culture

- Workers

- Competent authorities
- Licensees and managers
- RP professionals

Public
Manufacturers, suppliers and designers
Conclusion

- All human activities meeting economic or social requirements includes an element of risk
- The risk needs to be managed
- ALARA is a means to manage the risk
  - Precaution
    - Evolution of scientific knowledge
  - Responsibility
    - Limited resources, (ionising radiation is one of the risk)
    - Concept of residual risk
  - Transparency
    - The means and the rationale to implement the management of the risk can be verified by the stakeholders
- ALARA in RP training
  - The stakeholders need to understand the ALARA approach and its purpose
  - The training should be adapted to the perspectives of the stakeholder