The 17th European ALARA Network Workshop in collaboration with NERIS

ALARA in emergency situations

Welcome address to European ALARA Network workshop

Dr. F. Vermeersch
Chairman EAN

15-17 May, Lisbon, Portugal
http://www.eu-alara.net/
1996
- cooperation of experts from various European organisations mediated by the European ALARA training course
  - European Support from 1996 to 2004

2005
- Evolution to a self supporting network
- EAN a legal entity, non-profit organisation under French law
  - Coordination CEPN, PHE and a group of European experts
- Evolution from 8 to 20 countries since 1996
EAN objectives

- First
  - ALARA in industry and research
    - Industry → non NPP (ISOE for NPP)

- Later
  - ALARA in the medical field
  - ALARA in NORM-industry

- Currently
  - All exposure situations, planned, existing and emergency situations
Promote a wider and more uniform implementation of the ALARA principle for the management of worker, public and patient exposures in all exposure situations,

Provide a focus and a mechanism for the exchange and dissemination of information from practical ALARA experiences

Identify and investigate topical issues of common interest to further improve the practical implementation of ALARA
How does the network work

ACTIVITIES AND ACHIEVEMENTS
Contacts with other organisations

Networking

**Medical field**
EFOMP – European Federation of Organisations for Medical Physics
EFRS – the European Federation of Radiographer Societies

**Industry**
EFNDT – European Federation for Non-Destructive Testing

**Special Liaison Organisation to ICRP**
committee 4 working group on NDT

**NERIS**
The European Platform on Preparedness for Nuclear and Radiological Emergency Response and Recovery
EAN Activities and outputs

- EAN Workshops
- Support to European Surveys
- EAN working groups
- ALARA Newsletter
- EAN Website
Workshops

- **Industry and research**
  - Good radiation practices in industry and research, Oxford, 1998
  - Managing internal exposure, Munich, 1999
  - Management of occupational radiological and non-radiological risks: lessons to be learned, Antwerp, 2000
  - Occupational radiological protection control through inspection and self-assessment, Upsalla, 2004
  - Occupational exposure optimisation in the medical and radiopharmaceutical sectors, Madrid, 2002
  - ALARA and the medical sector, Oscarborg, 2011

- **Medical**
  - Occupational exposure optimisation in the medical and radiopharmaceutical sectors, Madrid, 2002
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- **NDT**
  - Industrial radiography, improvements in radiation protection, Rome, 2001
  - ALARA in industrial radiography: How can it be improved?, Bern, Switzerland 2016

- **decommissioning**
  - ALARA and decommissioning Saclay 1997
  - Decommissioning and site remediation, Arnhem, 2003

- **Planned**
  - Occupational exposure to natural radiation, Augsburg, 2005

- **Existing**
  - ALARA in existing exposures situations, Dublin, 2012

- **Emergency**
  - ALARA issues arising for safety and security of radiation sources and security screening devices, Vienna, 2009 (partim)

  - 17th EAN workshop 2017 Jointly with NERIS on optimisation in accident and post-accident situations
Why a workshop on ALARA in emergency situations

Why

• ICRP and BSS emphasis to apply ALARA in emergency situation and post-accident situations
• reexamine the challenges in applying the ALARA principle, taking the lessons learned from Fukushima into account

Context

• ICRP, discussion on acceptability of risk
• IRPA discussion on reasonableness
• Collaboration with NERIS
ALARA in emergency situations

- **Definition**
  - Urgent action to limit or reduce the unwanted consequences (exposures)

- **Stakeholder**
  - Not a uniform knowledge base, different risk perception, specificity of "new exposed" workers (responders) usually, not trained in RP

- **Implementation**
  - Complicated
  - Integrate protection strategies into the planning stage as well as during the implementation of the emergency response

- **Elements used in the ALARA process**
  - Scenario evaluations
  - Generic intervention levels for pre-defined actions
  - Sheltering, Evacuation, Iodine prophylactics,…
  - Predetermined emergency zones
  - Evolution towards Safety demonstrations for new installations to mitigate consequences (avoiding off-site emergency measures, protective measures limited in area or time)
**17th European ALARA Network Workshop**  
**ALARA in emergency situations**

- **How**
  - Presentations → setting the scene, info for discussion
  - Working groups dealing with identified topics
    - Working group 1
      - Focus on the public
    - Working group 2
      - Focus on the individual
    - Working group 3
      - Prediction and reality

<table>
<thead>
<tr>
<th>Working group 1</th>
<th>Working group 2</th>
<th>Working Group 3a and 3b</th>
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<tbody>
<tr>
<td>• Can the ALARA principle be fully applied in Emergency Exposure</td>
<td>• Can the ALARA principle be fully apply in Emergency Exposure</td>
<td>• Predict the unpredictable. How to ensure the emergency plans are optimal from a radiation protection point of view?</td>
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<td>• Situations for members of the public?</td>
<td>• Situations for the occupational exposed individuals?</td>
<td>• The challenges raised by ALARA in planning vs. ALARA in real situation (experience feedback of nuclear accidents).</td>
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<tr>
<td>• Are their steps of ALARA process that cannot apply? or should apply differently? How differently?</td>
<td>• Are their steps of ALARA that cannot apply? Or should apply differently? How differently?</td>
<td>• Acting in emergency</td>
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<tr>
<td>• When and how to evacuate?</td>
<td>• Low dose for many or high dose for a few?</td>
<td>• How to react if the situation goes beyond the prediction?</td>
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<td>• What about other protective actions?</td>
<td>• How do you know that doses are ALARA?</td>
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<td>• What does Reasonable mean anyway?</td>
<td>• Can innovative technologies be of use? Pros and cons?</td>
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Thanks to

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Thank you and have a Successful Workshop