First NERIS Platform Workshop

Preparedness for Nuclear and Radiological Emergency Response and Recovery: Implementation of ICRP Recommendations

W. Raskob, T. Duranova[1], T. Schneider[2], R. Mustonen[3], D Oughton[4]

Karlsruhe Institute of Technology (KIT), Hermann-von-Helmholtz-Platz 1, 76344 Eggenstein-Leopoldshafen, Germany
[1] Slovak Institute for Nuclear Power Plants Applied Research and Operational Support (VUJE, Inc.), Okruzna 5, 918 64 Trnava, Slovak Republic
[2] Nuclear Protection Evaluation Centre (CEPN), 28 rue de la Redoute, 92260 Fontenay-aux-Roses, France
[3] Radiation and Nuclear Safety Authority (STUK), Laippatie 4 / P.O. BOX 14, 00881 Helsinki, Finland
[4] Norwegian University of Life Sciences (UMB), P.O. Box 5003, N-1432 Ås, Norway

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Why to organise such a meeting?

- The European project NERIS-TP with 19 partners has to task – among others – to develop simulation models that can deal with the new ICRP recommendations
  - Consider all exposure pathways when deciding on countermeasures
  - The residual dose is an important target for decision making
  - Optimisation of measures in the preparedness phase
- The developers were supported by the members of the NERIS Platform

- NERIS is a place where national and local authorities, technical support organisations, professional organisations, research institutes, universities and non-governmental organisations discuss topics related to emergency management and long term rehabilitation preparedness (43 organisations from 22 countries have joined the Platform)

- *CIEMAT (Spain)*
- *UVM (Germany)*
- *NRPA (Norway)*
- *Vuje (Slovakia)*
- *HPA (United Kingdom)*
- *Institute for nuclear Research (Romania)*
- *RIVM (Netherlands)*
- *STUK (Finland)*
- *SNSA (Slovenia)*
- *BfS (Germany)*
- *ASN (France)*
- *EVIRA (Finland)*
- *ISS (Italy)*
- *DEMA (Denmark)*
- *IRSN (France)*
- *RIKILT (Netherlands)*
- *DZZZ (Croatia)*
- *NAEA (Poland)*
- *APA (Portugal)*
- *SURO (Czech Republic)*
- *ITN (Portugal)*
- *GRS (Germany)*

GEOGRAPHICAL DISTRIBUTION OF THE MEMBERS OF THE 43 ORGANISATIONS FORMING THE NERIS PLATFORM

- *Risø (Denmark)*
- *IAE POLATOM (Poland)*
- *KIT (Germany)*
- *AIT (Austria)*
- *CEPN (France)*
- *IFIN-HH (Romania)*
- *Mutadis (France)*
- *UCEWP (Ukraine)*
- *UPM (Spain)*
- *ANCCLI (France)*
- *PDC (Denmark)*
- *UoM (United Kingdom)*
- *NRG (Netherlands)*
- *SCK.CEN (Belgium)*
- *IKE (Germany)*
- *UOI (Greece)*
- *UMB (Norway)*
- *RIR (Belarus)*
- *PMA (France)*
- *AgroParisTech (France)*
- *Taiwan Radiation Protection Association (Taiwan)*

General information

- Workshop was organised by VUJE in cooperation with ICRP
- Park Inn Danube Hotel, Bratislava, Slovak Republic
  6 – 8 February, 2012
- 88 persons from 26 different countries participated
- The Workshop provided a forum for discussion and sharing of first experiences on the implementation of the ICRP Recommendations
- International, European and national perspectives were presented
- Facilitated discussions were devoted to specific issues related to both the application of ICRP recommendations and methodological aspects of decision support tools
- Four break-out groups established

Break-out groups - Topics

- Topic 1: Regulatory challenges in the preparation for an emergency and how simulation models may support this
- Topic 2: Challenges in the practical implementation of countermeasure strategies and their optimisation during an emergency and how simulation models can support this
- Topic 3: Challenges in the practical implementation of countermeasure strategies and their optimisation in existing exposure situations and how decision aiding tools can support this
- Topic 4: Societal and communication issues and how decision aiding tools might support this.

- Information management was the key point of the discussions
- European coherence of decisions is important
- ECURIE, EURDEP, REM, CTBT (under continuous improvement)
  - The systems work well
  - IRIX format allows several kinds of information to be exchanged
  - Both ECURIE and EURDEP could be extended to exchange various kind of information
- A common European data/information exchange system or data bank? YES
  - Purpose is to store all relevant information related to a particular emergency including decisions taken
  - Extended data/information exchange system should be only for experts (but also public pages)
  - EC or some other body could take responsibility to maintain the system

Topic 2: Challenges in the practical implementation of countermeasure strategies and their optimisation during an emergency and how simulation models can support this

- So far simulation models treat countermeasures individually and do not allow to define a strategy of early and late phase measures in one run

  Questions that were raised – but not all answered:

- Is the “residual dose” the right target for decision making?
- Is there a possibility to stay with the individual intervention levels but optimise them in advance that they fit to the reference level?
- How to define the dose criteria for the lifting of measures?
- Is the dose from food part of the simulation strategy or should a dose from food consumption of 5-10 mSv be assumed as maximum related to the current maximum concentration levels defined after Chernobyl/Fukushima in food?

Topic 2: Challenges in the practical implementation of countermeasure strategies and their optimisation during an emergency and how simulation models can support this (2)

- There was little discussion about the technical content of the proposed new screening tool
- The discussion focused on the experience from the Japanese case, where most decisions were based on the plant status
- Concern was raised that simulation models might be only suitable to support decisions on the time frame of days
- The use of simulation models in the preparedness phase is important as an input for the implementation of strategies
- The discussion reflected the current thinking with the experience of using the individual measures since more than 20 years
- The ARGOS and RODOS consortiums will continue in the development (NERIS partners will provide feedback)
- In a real situation, early decisions have to be taken considering what might be the long term impact (appropriate triggers!)

Three questions were mainly discussed during the breakout session

- How clean is clean?
  - the scale of the contaminated area;
  - source of the contamination i.e. accident or malicious event;
  - political factors and trust in the authorities;
  - whether preparedness, awareness and information exchange are well developed;
  - understanding of the balance between radiological and non-radiological risks by the population;
  - stakeholder involvement in the decision making process;
  - availability of places for dialogue at the local level;
  - prioritisation of needs in the local context, including different clean up standards on a case by case basis

Topic 3: Challenges in the practical implementation of countermeasure strategies and their optimisation in existing exposure situations and how decision aiding tools can support this (2)

- Do we have the necessary tools for managing existing exposure situations?
  - ‘Yes”, as there are such products as AGRICP (Food production) and ERMIN (inhabited areas), MOIRA (hydrology modelling tool), EURANOS Recovery Handbooks (Food production; inhabited areas), SAGE Handbook and CODIRPA which provide support for the development and maintenance of RP Culture
- How can decision-aiding tools in particular, be used in existing exposure situations?
  - The decision aiding tools can be used to assess the overall evolution of residual dose, they help identify exposure pathways and points to intervene, they enable elimination of options and provide an audit trail of decisions
  - The limitations are, that they do not include uncertainties, may not be able to distinguish between similar sets of options on the basis of residual dose, and they are unsuitable for malicious acts

Questions raised:

- How can we improve the definition of stakeholders and the framing of the problems, recognising the complexity of the stakeholder networks and relationships?
- The issue of trade of goods and foodstuffs from contaminated territories clearly illustrates the interaction of technical, management, as well as social concerns. If consumers lose trust in a product this can have serious economic consequences. How might stakeholder and communication processes support the improvement of strategies to address this issue?
- In Japan, the citizens started to carry out their own decontamination. How can this be addressed in management strategies?
- What opportunities are there for exploitation of social media and networking within emergency preparedness? How to best approach the issue of contradictory information?

Concrete recommendations for communication included

- Listen – take time to learn what people want to know; to understand the questions they have; and to learn what they already know
- Build up networks during ”peace time”, for example with science journalists or through stakeholder dialogue which provide opportunities to listen and learn
- Be sensitive to both harmonization and pluralism
- Social media are important and their proper usage has to be explored
- Challenges in the various phases ***Preparedness, Emergency and Post emergency and existing situations*** are different; be prepared

Conclusions

- The first NERIS Workshop initiated a large momentum in bringing together a wide community of participants to discuss openly the ICRP recommendations, and challenges, experiences and views with regard to their practical implementation
- The workshop was biased from the Fukushima experience und NERIS will continue the dialogue with Japanese colleagues
- ICRP-103 is more than changing simulation models; therefore the subdivision into the four break-out groups
- The NERIS-TP consortium will continue to develop the new tools and the NERIS Platform members will provide feedback and recommendations
- The discussion at the NERIS Platform will continue and may lead to new initiatives on the European level