

First NERIS Workshop: in Bratislava, Slovak Republic between the 6th and 8th of February 2012

Training course on Late Phase Nuclear Accident Preparedness and Management: in Fontenay-aux-Roses, France between the 12th and 15th of March 2012

Third NERIS General Assembly: in May 2012, at the occasion of the IRPA13 Congress in Glasgow, Scotland

EDITORIAL ■ *The nuclear disaster at the Fukushima Daiichi nuclear power plant in March this year reminded us again that all human technological achievements have some associated risks. Safety at nuclear power plants is afforded the highest possible priority, yet risks still exist from other highly unlikely events. The Fukushima accident proved that an event regarded as almost impossible was possible and a very small risk became reality. Due to the fact that major nuclear accidents have, in addition to radiological and economic consequences, also social and political dimensions, an effective and reliable co-operation and collaboration of various stakeholders both nationally and internationally is necessary to minimise, not only people's exposure to radiation, but also the public fear and anxiety about possible health effects of radiation. Every country in Europe has national arrangements for nuclear and radiological accidents, but the question is how well they are co-ordinated and harmonised to protect all European citizens. The overall goal of the NERIS Platform is to strengthen co-operation and collaboration of European decision makers in the event of a nuclear or radiological accident to find the most effective and feasible protective actions in a way that raises the public confidence. A major nuclear accident has consequences across national borders and the protective actions taken in the affected countries should be consistent. To achieve this, the information flow between the decision makers and other stakeholders should be fluent and reliable, and the methods and tools used should be compatible. I am not aware of all of the actions taken by different European competent authorities during the Fukushima accident to protect their citizens in Japan, but I wonder if the actions were all in line with each other?*

Raimo Mustonen
President of the NERIS Platform

FEEDBACK FROM RECENT NERIS EVENTS

RTD Workshop

35 participants from 13 different countries participated to a RTD (Research and Technology Development) Workshop that took place on the 23rd of September in SCK.CEN, Brussels, Belgium. The objectives of the Workshop were to identify the needs for further developments and addressing new and emerging challenges in the field of preparedness for nuclear and radiological emergency response and recovery. In order to address these issues, the participants worked in break-out sessions focused on three different topics:

Topic 1.

New challenges in atmospheric & aquatic modelling - Needs for improvement

Topic 2.

New challenges for better dose assessments and decision support based on improved knowledge: source term, scenarios, etc.

Topic 3.

New challenges in stakeholder involvement and local preparedness and communication strategies

The needs for further development and emerging challenges for each topic are presented hereafter:

...

(...) FEEDBACK FROM RECENT NERIS EVENTS

2. NEW CHALLENGES FOR BETTER DOSE ASSESSMENTS AND DECISION SUPPORT BASED ON IMPROVED KNOWLEDGE: SOURCE TERM, SCENARIOS, ETC.

NEED FOR A BETTER EXCHANGE OF INFORMATION IN CASE OF AN ACCIDENT THAT WOULD, AMONG OTHERS, ENABLE BETTER COMMUNICATION WITH STAKEHOLDERS AND MASS MEDIA

- Establishment of a Europe-wide portal for operational data and information exchange in nuclear and radiological emergencies.
- Use of formal decision analysing in decision making in the recovery phase of an accident.
- Development of a knowledge database with scenarios and response, including lessons learned from historic events and tools developed in international handbooks.
- Access/exchange platform collecting and distributing results from governmental and non governmental organisations.
- Information material of general nature on radiation emergencies and countermeasures: A simple, catchy, easy-to-read book.
- Multiple stressors: might also be a topic for consideration in emergency preparedness, as countermeasures implemented to solve a radiological problem might otherwise create an irreversible problem of a different nature. Also of relevance in relation to malicious dispersion (CBRNE).

IMPROVEMENT OF THE EXISTING TOOLS AND THEIR USAGE IN THE BEST POSSIBLE WAY

- Customising of the existing environmental models into the regional circumstances in Europe and improvement of existing DSS with radiological capabilities.
- Better definition of source terms and assimilation of measurements.
- Development of tools for the usage at the local level.
- Parametrisation of decision support systems for handling malicious dispersion scenarios.
- Definition in advance of the strategies for a contaminating accident, ensuring that parameters governing the radiological consequences can be identified in time to enable optimized remediation.
- Revision of European handbook sections (creation of addendum): for consideration of malicious dispersion scenarios.
- Maintenance of the European decision support systems RODOS and ARGOS.
- Continuation of the development of a framework for the interaction between processes and tools.

1. NEW CHALLENGES IN ATMOSPHERIC & AQUATIC MODELLING

IMPROVEMENT OF THE ATMOSPHERIC MODELLING

- Improvement of the existing DSS and their modules to handle intentional or accidental atmospheric releases of radiological or nuclear material in complex settings through application and validation of CFD modelling or other appropriate methodologies.
- Assimilation of atmospheric measurements and inverse modelling to estimate unknown source term (location, emission rate) in urban areas and in open spaces.
- Extension of capability of dispersion models in DSSs to treat detailed information for particular types of sources (e.g., explosions, fires, general short-term releases), and related physico-chemical properties and transitions (heat, momentum phase changes, chemical transformations, spectrum of particles sizes).
- Assessment of models uncertainties.
- Research on short-duration (e.g. explosions) releases and extension of existing DSSs to simulate very long-duration releases (e.g. one month to one year).
- Extension of existing DSSs to enable the input of more detailed meteorological measurements, currently available by modern monitoring techniques (e.g., 3-dimensional wind).

IMPROVEMENT OF THE AQUATIC MODELLING

- Assessment of the vulnerability of urban hydrology systems to nuclear emergencies.
- Implementation and operational use of coastal models into existing DSSs to estimate dispersion of radioactivity in coastal waters and radioactivity levels in fish and sea-food in the (possibly long) emergency phase of an accident with a nuclear installation.

3. NEW CHALLENGES IN STAKEHOLDER INVOLVEMENT AND LOCAL PREPAREDNESS AND COMMUNICATION STRATEGIES

COMMUNICATION AND INFORMATION

- Need to better define the stakeholders and the framing of the problems. More focus on listening to the needs and requirements of the public and stakeholders, as well as dialogue at all levels and territories – local, national, international.
 - Need for a stronger focus on the application of social media/networking technology within emergency preparedness.
- Development of networking activities, in particular with:*
- The Set up of a Stakeholder Engagement Database with requests on dedicated issues
 - The establishment of links with the Japanese experience
 - Exchange of information with NEA/CRPPH and IAEA

CULTURAL, SOCIETAL, ECONOMIC CHALLENGES

- Better documentation of the multidimensional nature of the accident, media and authority reactions and the complexity of the stakeholder networks and relationships.
- Contamination of goods (e.g. foodstuff): identification of the stakeholders needs and set up a research programme together with these stakeholders. This programme could include a cooperative research involving various stakeholders, notably representatives of producers, traders and consumers, in order to define a better strategy to address the issue of trade and exchange of goods from contaminated territories in the perspective of a sustainable development.

(...) FEEDBACK FROM RECENT NERIS EVENTS

Training course on Preparedness and Response for Nuclear and Radiological Emergencies

The 24th edition of the International Training Course on «Preparedness and Response for Nuclear and Radiological Emergencies» organised by SCK•CEN, the Belgian Nuclear Research Centre, took place on 17-21 October, 2011 in Mol, Belgium. This course is set up in collaboration with the main European actors in nuclear/radiological emergency management, in the framework of the NERIS Platform.

The main objective of the course is to provide a comprehensive overview of the theoretical background and the practical aspects of nuclear and radiological emergency management. The target audience includes all actors involved in emergency planning and response, from technical and radiological advisors to staff responsible for the overall emergency organisation and policy, such as civil protection and environmental protection officers.

In 2011, two special sessions were added to the basic lectures. These were dedicated to the Fukushima accident and to communication in nuclear/radiological emergencies. The course lectures were given by experts with international recognition in the field. ■

UPCOMING NERIS EVENTS

The first NERIS Platform Workshop on «Preparedness for Nuclear and Radiological Emergency Response and Recovery: Implementation of the ICRP Recommendations»

The first NERIS Platform Workshop on «Preparedness for Nuclear and Radiological Emergency Response and Recovery: Implementation of ICRP Recommendations» will be organised between February 6th and 8th 2012 in Bratislava (Slovak Republic). This first NERIS Workshop is organised by the Slovak institute for nuclear power plants applied research and operational support (VUJE) in cooperation with the International Commission on Radiological Protection (ICRP). The objectives of the Workshop will be to provide a forum for discussion and sharing of experiences on the methodological and computational aspects related to the practical introduction of ICRP Recommendations 109 and 111 in the existing decision support tools and on the implementation of these recommendations into international, European and national standards and guidelines for emergency management and recovery. The Application form is available on the **NERIS Website**.

Please do not hesitate to contact Tatiana Duranova - Tatiana.Duranova@vuje.sk – or the NERIS Secretary – sec@eu-neris.net - if you need further information. ■

[Link to the second Announcement](#)


Training course on Late Phase Nuclear Accident Preparedness and Management

A new edition of the Training Course on «Late Phase Nuclear Accident Preparedness and Management» organised by CEPN, the Nuclear Protection Evaluation Centre, will take place on 12 - 15 March, 2012 in Fontenay-aux-Roses, France. The main objective of the course is to provide principles and practical advice for those involved in the preparedness for rehabilitation of living conditions in contaminated areas. The course will offer a comprehensive overview of the various dimensions and challenges of rehabilitation, and also practical elements for the implementation of countermeasures for managing long-term contaminated rural and urban environment. A particular attention will be given to “stakeholder involvement” approaches to initiate preparedness processes and also to favour the redeployment of social and economic activities in the affected areas in case of an accident. ■



FEEDBACK FROM RECENT EVENT IN THE FIELD OF PREPAREDNESS FOR NUCLEAR EMERGENCY RESPONSE AND RECOVERY

Second CODIRPA Seminar

 In April 2005, a government decree was enacted in France, entrusting to the Nuclear Safety Authority (ASN) the task of designing, in collaboration with the relevant Ministerial departments, the strategy to be implemented in the event of a nuclear post-accident situation. After a first seminar in December 2007, ASN organised a second seminar on May 2011 in Paris, with the support of the French Parliamentary Office for the Evaluation of Scientific and Technological Choices (OPECST). This seminar took into account advances by Codirpa in the establishment of national policy since the first symposium. A guide for exiting the emergency phase, issued by Codirpa as part of the commitments of the 2007 seminar, was presented, in addition to current local feedback from volunteer prefectures and communities. Some of the main achievements are summarized below:

- The need to structure the post-accident actions by distinguishing two zones with different aims: a public protection zone (ZPP) for health reasons (comprising, if appropriate, an evacuation zone), inside which work is done to reduce the doses that the people inside the zone are likely to receive; an territorial heightened surveillance zone (ZST) more concerned with economic management, within which specific surveillance of foodstuffs and agricultural products intended for sale will be set up.
- In the event of significant uncertainties regarding the situation and how it is evolving geographically and over time, an assessment in line with forecast estimates of contamination and doses, based on modelling and then supported by measurements, constitutes the essential basis on which strategies and action plans are based.
- Given the preponderant contribution of the ingestion of contaminated foodstuffs in the exposure to radiation of populations in the post-accident phase, provisions are made relating to the prohibition of consumption and the sale of foodstuffs – total prohibition in the public protection zone for at least one month and prohibition lifted gradually in the territorial heightened surveillance zone based on the results of the clearance procedures for the levels of radioactivity in foodstuffs.

- Managing health consequences requires, in particular, the implementation of a full survey of the people in the public protection zone, as well as a system of periodic surveillance of the internal exposure of people in both zones (whole-body counting).
- The total decontamination of the built environment is unachievable, but it is nevertheless possible to attenuate contamination by cleaning the roads and roofs as rapidly as possible after the accident, in order to prevent radioactivity being fixed on surfaces.
- The management of the waste created by the accident must, in so far as is at all possible, be handled by solutions which are as close as possible to the location of the accident, and be carried out in such a way as to reduce the volume of such waste.
- With regard to compensation for damage, the civil nuclear liability, which is based on international conventions, successively involves the nuclear operator, the State and those States party to the conventions. Although the principles are currently clear, the operational implementation of the system now requires a sustained effort by the State and the operators to fix the practicalities of the compensation rules.
- The necessary reliance upon a consultative approach between the public authorities and the stakeholders affected by the consequences of the accident, throughout the post-accident management.
- National and local components of the organisation of the public authorities to be implemented to manage the situation depend upon the scale of the accident. Whatever the situation, it is important to allow a significant level of initiative at the local level.
- The implementation of a system to keep the population informed is a major component of the post-accident communications policy. It is based, in particular, on public reception and information centres being set up rapidly in the territories affected.

The guide for exiting the emergency phase will be updated according to the remarks collected thanks to the local feedback for a release at the end of 2011. A new scenario with long term releases will also be considered to test the robustness of the guide. In addition, guidelines on the transition phase (months after the accident) and the long term (years after the accident) will also be published at the end of 2011. ■

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First NERIS Platform Workshop

“Preparedness for Nuclear and Radiological Emergency Response and Recovery: Implementation of ICRP recommendations”

Park Inn Danube Hotel

Rybné námestie 1, Bratislava, Slovak Republic

6 - 8 February 2012

Workshop organized by VUJE in cooperation with ICRP

Introduction

The workshop is proposed by the European Platform on Preparedness for Nuclear and Radiological Emergency Response and Recovery: the NERIS Platform.

The objectives of this Platform are to contribute to:

- Improving the effectiveness of current European, national and local approaches for preparedness concerning nuclear or radiological emergency response and recovery.
- Promoting more coherent approaches in preparedness for nuclear or radiological emergency response and recovery throughout Europe.
- Identifying gaps and needs for further developments in preparedness for nuclear or radiological emergency response and recovery.
- Addressing new and emerging challenges in the field of preparedness for nuclear and radiological emergency response and recovery.
- Maintaining and improving know-how and technical expertise in preparedness for nuclear or radiological emergency response and recovery among all interested stakeholders in Europe.

This first NERIS workshop is organised by the Slovak institute for nuclear power plants applied research and operational support (VUJE) in cooperation with the International Commission on Radiological Protection (ICRP). It is partly funded by the European Commission within the NERIS-TP Project of the Euratom FP7.

Objective

The Workshop will provide a forum for discussion and sharing of experiences on the implementation of ICRP Recommendations for the protection of people in emergency exposure situations (Publication 109) and living in long-term contaminated areas after a nuclear accident or a radiation emergency (Publication 111) into international, European and national standards and guidelines for

emergency management and recovery. It will provide an opportunity to explore the methodological and computational aspects related to the practical introduction of these recommendations in the existing decision support tools used in European Countries.

Structure of the Workshop

The workshop will consist of plenary sessions and discussion sessions in smaller working groups.

Plenary sessions will focus on the ICRP Recommendations, national approaches and experiences, methodological aspects and updates of computational models.

The session on case studies in national experiences will focus on different approaches to implementing ICRP Recommendations in different countries and will be supplemented with poster presentations.

Follow-up break-out sessions in groups will be held to allow participants to address identified topics and related issues. Sessions will be organised in a form of workshops and table-top exercises and facilitated discussion sessions.

Workshops and table top exercises will be organised in parallel to demonstrate how decision aiding tools may support the decision making process and to give insights into the development and implementation of protection strategies.

Facilitated discussion sessions will be devoted to specific issues related to both the application of ICRP recommendations and methodological aspects of decision support tools. Examples include practical issues such as support in scenario preparation, developing of counter-measure strategies, optimisation of strategies, communication of model results, integration of suitable management options, etc.

Working language

The working language of the workshop will be English.

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Target Audience

The target audience of this workshop includes all stakeholders in preparedness for nuclear and radiological emergency response and recovery, with an expected attendance of some 100 participants from the following groups:

- European, national, regional and local authorities/regulators;
- policy and decision makers;
- technical support organisations;
- researchers (research institutes and universities);
- operators and professional organisations;
- local and regional stakeholders involved in the implementation of countermeasures;
- non-governmental organizations (NGOs).

Expected outcome

The workshop aims to disseminate information on the development of the methodological and practical aspects relating to the management of emergency and existing exposure situations following publication of ICRP Recommendations 103, 109, 111 and other European documents. The workshop will also gather feedback from end users on topics related to the new methods, models and products. Results of the workshop will be published via NERIS web page <http://www.eu-neris.net/>. Papers and outputs from the Workshop will be included and published in a special issue of the "Radioprotection" journal.

Organization

Workshop Chairman:

Raimo Mustonen, STUK, Finland

Chair of Local Organising committee:

Karol Rovny, STA at VUJE, Slovak Republic

Local Coordinator: *Tatiana Duranova*

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Tatiana Duranova, VUJE, Slovak Republic

Anne Nisbet, HPA, UK

Deborah Oughton, UMB, Norway

Astrid Liland, NRPA, Norway

Eduardo Gallego, UPM, Spain

Venue and Accommodation

The workshop will be held at the following hotel:

Park Inn Danube Hotel

Rybné námestie 1

813 38 Bratislava

Slovak Republic

A block of rooms has been reserved for participants wishing to stay at the meeting hotel at a reduced rate of 100€ (EUR) / night, subject to availability. To reserve a room, please use the attached accommodation application form and send it to ladislava.curkova@vuje.sk not later than December 19, 2011.

Fee

There is no registration fee, however, participants are expected to cover their own travel and subsistence costs.

Limited funds will be available to contribute to costs for selected participants (500 EUR per applicant). For more information please contact NERIS secretary.

Registration and Further information

The workshop will be held 6-8 February 2012.

While there is no registration fee, workshop participation is limited to a maximum of 120 participants and pre-registration is required. Participants may register on-line at the following NERIS link: http://www.eu-neris.net/index.php?option=com_chronocontact&chronoformname=regform, or using the attached registration form, not later than December 19, 2011.

Submission of full papers of already submitted presentations (oral or poster) is requested by 9 January 2012. Further instructions (Template) for preparation of full papers and posters are presented on the NERIS web page.

Participants are asked to indicate their preferred break-out session when registering for the workshop, although this may be adjusted by organizers to facilitate discussions and table-top exercises.

For further information please contact the Local Coordinator and the NERIS Secretary. You can also visit the NERIS web page <http://www.eu-neris.net/>.

Registration form

First NERIS Platform Workshop

“Preparedness for Nuclear and Radiological Emergency Response and Recovery:
Implementation of ICRP recommendations”

6 - 8 February 2012 (Bratislava, Slovak Republic)

Participants can register either:

- on-line at: http://www.eu-neris.net/index.php?option=com_chronocontact&chronoformname=regform
- by completing the following form and submitting to the address below:

Surname: First name:

Institute/Company/Organization:

Department/Unit:

Mailing address:

Postal code: City: Country:

Business phone: Fax: E-mail:

Area of expertise:

Are you submitting a presentation? Yes No Proposed title:

Please, indicate below your choice of break-out group in descending order of preference (1, 2, 3 or 4). Attendance in each session may be adjusted by organizers to facilitate discussions.

..... *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

Date:

Signature:

Accommodation application

6 - 8 February 2012 (Bratislava, Slovak Republic)

I apply for accommodation booking in Park Inn Danube hotel during the workshop term in 6-8 February 2012 at a reduced rate of 100 € (EUR) / night

Name: Surname:

ID: Single room 2/3 bed-room for persons

Return the completed form by 19 December 2011 to:

Ms. Ladislava Curkova

Attn: NERIS Workshop - VUJE, a.s. - Okružna 5 - 918 64 Trnava - Slovak Republic
Tel.: +421 33 599 1124 - Fax: +421 33 599 1178 | e-mail: ladislava.curkova@vuje.sk

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Important dates

Registration deadline:

19 December 2011

Submission of full papers:

9 January 2012

Workshop: 6 - 8 February, 2012

■ Programm

6 FEBRUARY 2012

09:00 Registration desk opens

Optional tour: *Kings Coronation Route: walking guided tour in Bratislava old town*

14:00 Opening

Welcome address from the host organization
M. Korec, VUJE Managing Director

14:15 Introduction (Chair: W. Raskob)

NERIS Platform - An Attempt to Enhance European Response to and Recovery from Radiological Emergencies
R. Mustonen, NERIS Platform President

Application of the ICRP recommendations for the protection of individuals in emergency exposure situations and living in long-term contaminated areas after an accident

J. Lochard, ICRP

Japanese Earthquake and Fukushima nuclear accident - radiation protection issues

T. Homma, JAEA

16:00 Coffee Break

16:30 Plenary session I: ICRP recommendations and their application (Chair: J. Lochard)

EC BSS status and perspective, and European response to the Fukushima accident

A. Janssens, EC

The IAEA Basic Safety Standards - its implementation
R. Czarwinski, IAEA

Recent Recommendations on Emergency Exposure Situations and a Discussion on Setting Reference Levels with NEA Perspective
H. B. Okyar, OECD/NEA

18:30 Workshop reception

7 FEBRUARY 2012

09:00 Plenary Session II: Methodological aspects and updates of computational models

(Chair: E. Gallego)

Methodological aspects of the ICRP recommendations implementation
W. Raskob, KIT

Computational models update
C. Landman, KIT

On the current needs in European decision support tools for contamination areas
K. G. Andersson, RISOE/DTU

Case study on the improved use of collective dose for nuclear and/or radiological emergencies

J. Camps, SCK/CEN

10:00 Coffee Break and Poster Viewing

10:30 Plenary Session III: Case studies in National experiences (Chair: D. Oughton)

Emergency Exposure Situations: IAEA safety standards and guidance
E. Buglova, IAEA

Activities in Germany related to ICRP 103

W. Raskob, KIT

Planned reference and intervention levels in Finland
R. Mustonen, STUK

Application of ICRP recommendations in the UK
A. Nisbet, HPA

Remote monitoring of nuclear power plants in Baden-Wuerttemberg - From measurement to emergency protection
T. Wilbois et al., KFU

Upscaling industry RP measures for emergency and post-emergency and the need for refinements further to the ICRP general recommendations

S. Saint-Pierre, WNA

11:30 Plenary Session IV: Keying up the Break-out Groups - Workshops and table-top exercises/ Facilitated discussion sessions

(Chair: T. Duranova)

Overview of Workshops and table-top exercise
W. Raskob

Overview of *Topic 1*: Regulatory challenges in the preparation for an emergency and how simulation models may support this
Moderator: R. Mustonen

Overview of *Topic 2*: Challenges in the practical implementation of countermeasure strategies and their optimisation during an emergency and how simulation models can support this
Moderator: W. Raskob

Overview of *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
Moderator: A. Nisbet

Overview of *Topic 4*: Societal and communication issues and how decision aiding tools might support this
Moderator: D. Oughton

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12:30 Lunch

14:00 Break-out Groups I - Workshops and table-top exercises (parallel sessions, 1,5 hrs)

15:30 Coffee Break and Poster Viewing

16:00 Break-out Groups II - Facilitated discussions sessions (parallel sessions, 1,5 hrs)

19:30 Workshop dinner

Posters:

The Finnish processing pipeline during nuclear or radiological emergency preparedness and response
M. Amman et al., STUK

Comparison of the Belgian interventions levels and the new ICRP Recommendations for emergency exposures
D. Braekers et al., SCK/CEN

The ionizing radiation vs. rescue technology
M. Marcinek, E. Kemenova, Academy of the Police Force

Assessment of environmental radiation monitoring data in Hungary following the Fukushima accident
I. Turai, Z. Homoki, NRIRR

Overview on radiological emergency preparedness
N. Mod Ali, Malaysian Nuclear Agency

Challenges In Radiography - X-Ray Of Panther Without Sedation
S. K. Vajpai, Govt. P.C Sethi Hospital

Objectives of Break-Out Sessions:

■ **Workshops and table-top exercises** will demonstrate how decision aiding tools may support the decision making process and to give insights into the development and implementation of protection strategies.

■ **Facilitated discussion sessions** will be devoted to specific issues related to both the application of ICRP recommendations and methodological aspects of decision support tools. Examples include practical issues such as support in scenario preparation, developing of countermeasure strategies, optimization of strategies, communication of model results, integration of suitable management options, etc.

8 FEBRUARY 2012

09:00 Plenary Session IV: Summary reports from Break-out Groups

Summary report from Break-out Group on table-top exercise and *Topic 1 R. Mustonen*

Summary report from Break-out Group on table-top exercise and *Topic 2 W. Raskob*

Summary report from Break-out Group on table-top exercise and *Topic 3 A. Nisbet*

Summary report from Break-out Group on table-top exercise and *Topic 4 D. Oughton*

10:30 Coffee Break

11:00 Plenary discussion/Discussion forum

(Chair: J. Lochard, moderators of break-out sessions: R. Mustonen, W. Raskob, A. Nisbet, D. Oughton)

Workshops and table-top exercise

Facilitated discussion sessions

12:00 Synthesis of outcomes: Conclusions and recommendations, identification of key issues and direction forward (*A. Liland, NRPA*)

13:00 Summary

13:15 Close of Workshop