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**NUCLEAR ENERGY AGENCY  
COMMITTEE ON RADIATION PROTECTION AND PUBLIC HEALTH**

**NEA/CRPPH(2006)1/REV  
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**Annual Report of the Committee on Radiation and Public Health (CRPPH)**

**Accomplishments and Planned Activities  
March 2005 - May 2007**

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## Foreword

During the 58<sup>th</sup> Meeting (April 2000) of the OECD Nuclear Energy Agency's (NEA's) Radiation Protection and Public Health Committee (CRPPH), the Chairman proposed that an annual summary report presenting activities, accomplishments and plans would substantially increase the transparency of the Committee's work, and would facilitate the communication of accomplishments within Member country governments. The Committee agreed that such a document would be a valuable communication tool, and charged the Bureau and the Secretariat to provide the Committee with a draft CRPPH Annual Report for its next meeting. The first edition of this report, document NEA/CRPPH(2001)11/Rev1, was seen as very useful by the Committee, and the Secretariat was charged with producing annual updates.

The present report, prepared by the Bureau and the Secretariat will be approved by the CRPPH at its March 2006 meeting. It provides a snapshot of the Committee's accomplishments since its last meeting (March 2005), and its planned activities for the subsequent 12 months (March 2006-March 2007).

CRPPH Members are encouraged to use this document as a basis for national discussions of the results and directions of NEA work in the area of radiation protection. The annual CRPPH meeting will also use this document as its principal working paper.

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## Summary

### Accomplishments for 2005 (March 2005 - March 2006)

The CRPPH continued to contribute to the advancement of radiation protection policy and application during the period from March 2005 to March 2006, its most significant accomplishments being:

- The most significant questions and issues in radiological protection management and radiological protection science, which will or could impact radiological protection policy, regulation and application in the coming 10 to 15 years, have been identified. (See EGCO, page 20 and EGIS, page 21).
- To help assure that the next ICRP recommendations appropriately reflect the needs and concerns of radiological protection policy makers, regulators and practitioners, the CRPPH has planned the 3<sup>rd</sup> NEA/ICRP Forum, the 3<sup>rd</sup> Asian Regional Conference, and the North American Regional Conference. (see pages 23 - 24)
- The most significant lessons have been identified for RP professionals interacting with stakeholders affected by large-scale contamination, focusing on post-Chernobyl lessons, but are applicable to any large-scale contamination situations (see EGSS, page 22)
- Fifteen countries held the INEX 3 exercise, generating significant national and international lessons in consequence management (see WPNEM, page 12 - 14).
- The ISOE databases were successfully transferred to a web-based access and analysis platform, forming the core of an ALARA Manager web-portal being created by the ISOE programme (see ISOE, page 15 - 17).

### Planned Activities for 2006 (March 2006 - May 2007)

In line with the NEA Strategic Plan, the CRPPH programme of work plans for the coming year will focus on the identification of emerging issues, and on the further development of stakeholder involvement in radiological protection decision making. Most significantly, the CRPPH will:

- Celebrate its 50<sup>th</sup> anniversary, holding a broad-participation workshop to discuss radiological protection in today's world: moving forward together (see page 27), based on the possible challenges identified by the EGCO(see page 20) and the EGIS (see page 21).
- Prepare and hold a broad workshop to discuss how state-of-the-art radiological protection science is used in making judgemental policy decisions, focusing on current radiobiology, and elaborating on its possible implications for policies, regulations and application (see page 29).
- Explore the implications of viewing radiological protection more from the perspective of public health, and how this could affect organisational processes and structures, and protection option decision making (see EGPH, page 25 - 26)
- Conduct the international INEX 3 Evaluation Workshop, and from this plot a course for future work of the Working Party on Nuclear Emergency Management (see WPNEM, page 12 - 14).
- Improve the usability and accessibility of the ISOE programme and products, and further develop the ISOE Network web-portal for ALARA experience exchange (see ISOE, page 15 - 17)
- Explore issues in occupational radiation protection from the perspective of radiation protection policy (see EGOE, page 30)
- Perform scoping studies of the implications of new nuclear build (justification and optimisation of new plants; Best Available Techniques for controlling releases to the environment), of the implications of stakeholder involvement on organisational structures, and to identify possible fruitful areas of CRPPH work in the area of radiological protection of the environment (see Scoping Studies, pages 30 - 33).

<b>TABLE OF CONTENTS</b>		<b>PAGE</b>
<b>Foreword</b>		2
<b>Summary</b>		3
<b>1. Introduction</b>		6
<b>1.1 Historical Perspective</b>		6
<b>1.2 Mandate of the Committee on Radiation Protection and Public Health</b>		8
<b>1.3 Strategic Direction and Priorities for the CRPPH (2005 - 2007)</b>		9
<b>1.4 Organisation of the CRPPH and its Sub-groups</b>		10
<b>2. Detailed Working Party and Expert Group Accomplishments and Planed Activities</b>		11
<b>2.1 Completed and Ongoing Work</b>		12
• Working Party on Nuclear Emergency Matters (WPNEM)		12
• Information System on Occupational Exposure (ISOE)		15
• Expert Group on the Implications of ICRP Recommendations (EGIR)		18
• Expert Group on the CRPPH Collective Opinion (EGCO)		20
• Expert Group on the Implications of Radiological Protection Science (EGIS)		21
• Expert Group on Radiological Protection Science at the Service of Stakeholders (EGSS)		22
• Evolution of the System of Radiological Protection: NEA Collaboration with the ICRP		23
• 3 <sup>rd</sup> Asian Regional Conference		23
• North American Regional Conference		24
• 3rd NEA/ICRP Forum		24

	PAGE
<b>2.2 New Groups and Activities</b>	25
• Expert Group on RP in the context of Public Health (EGPH)	25
• Future Perspectives for Radiological Protection	27
• The CRPPH 50 <sup>th</sup> Anniversary: Radiological Protection for Today's World: Moving Forward Together (Programme Committee, May Workshop 2007)	27
• Radiological Protection Science and Policy Judgement (Programme Committee, Workshop January 2008)	29
• Expert Group on Occupational Exposure (EGOE)	30
• Scoping Studies as Input to CRPPH 2007 PoW Selection	31
• Issues Surrounding New Build of Nuclear Power Plants (May 2007)	31
• Implications of Stakeholder Involvement for Organisational Structures (May 2007)	32
• Radiological Protection of the Environment (May 2007)	33
<b>2.3 Other Work of the CRPPH</b>	34
• Review and Possible Revision of the International BSS	34
• Assistance to the French Government: Global Health Security Action Group	35
• Stakeholder Involvement	35
• Japanese Health Physics Society Annual Meeting	35
• Japanese Symposium: Stakeholder Involvement in Radiation Protection	36
• IRPA Regional Workshop: Processes and Tools for Stakeholder Engagement in Radiological Protection, Salamanca, Spain	36
• ERICA	36
• EURANOS	37
<b>ANNEXES</b>	
<b>1. List of CRPPH and CRPPH Sub-group Members</b>	38
• Committee Participants by Group	38
• Committee Participants by Country	50
<b>2. Bibliography of Recent CRPPH Publications</b>	58

## 1. Introduction

### 1.1 Historical Perspective

The use of radiation has contributed greatly to the enhancement of the quality of life and the human endeavour. The beneficial uses of radiation in medicine, industry and energy production have resulted in the advancement of our society, while recognising that exposure to radiation can be detrimental. To capitalise and maximise the benefits to society of activities involving radiation (in other words, to optimise), governments take action to establish regulatory programs that promote and assure the appropriate safeguards are in place for the protection of the public, workers and environment from the possible deleterious effects from inappropriate use or handling of sources of radiation. One of the foundations of these efforts is a thorough understanding of radiation risks, including how these risks are assessed and managed, and how these risks are addressed in a societal context. Radiation protection is a cross-cutting discipline that establishes programmes for the protection of workers, the public and environment from the possible hazards of ionising radiation. In this way it contributes to the development of the safe use of nuclear power, and other uses of radiation. The Committee on Radiation Protection and Public Health (CRPPH) has, within the OECD Nuclear Energy Agency (NEA), the responsibility to study various aspects of these issues and take actions to support national authorities in adoption and maintenance of high standards of protection in the use of ionising radiation.

In July 1957, the Organisation for European Economic Co-operation (OEEC) established the Health and Safety Sub-Committee, which was charged with the implementation of a programme in the field of radiation protection. Following the establishment of the European Nuclear Energy Agency in 1958, the Sub-Committee was attached to the Steering Committee for Nuclear Energy, and in 1973 the mandate of the Sub-Committee was revised, establishing the Committee on Radiation Protection and Public Health (CRPPH). This mandate was updated in 1981 to provide more specific objectives and to focus the Committee's work, and again in 1993, to better reflect the Committee's relationship with the International Commission on Radiological Protection (ICRP), as well as its joint international project co-ordination work in such areas as occupational exposure (the ISOE programme) and nuclear emergency exercises (the INEX programme). The current version of the CRPPH Mandate (see next section) was approved by the NEA Steering Committee in October 2005. This revision was implemented to bring the Committee's mandate into harmony with the NEA's Strategic Plan, which was approved in 2005. Under this new Mandate, CRPPH is responsible for radiation protection studies and experience exchange in the light of the following goals:

- to provide its Members with a high-level, visible forum for exchange and discussion;
- to seek common understanding of identified issues;
- to advance the "state-of-the-art" in radiation protection theory, regulation and practice;
- to advance policies that bring the system of radiation protection more in line with modern societal needs, and;
- to promote international co-operative projects.

By addressing these goals, the CRPPH is helping to establish a safe working environment for nuclear power and waste management operations, as well as for medical, research and other industrial uses of ionising radiation. This is accomplished, in part, through the application of the ALARA principle to effectively manage public and worker exposures.

Performing this work in close collaboration with other international organisations, particularly the International Atomic Energy Agency (IAEA), the European Commission (EC) and the International Commission on Radiological Protection (ICRP), the International Radiation Protection Association (IRPA), the International Labour Organisation (ILO), The United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), the World Health Organisation (WHO), the World Meteorological Organisation (WMO), the United Nations Office for the Co-ordination of Humanitarian Assistance (UN-OCHA) and the United Nations Development Programme (UNDP) assures that efforts are complementary. Performing this work at the level of an internationally recognised committee of radiation protection experts, the CRPPH is also helping to promote international co-operation and discussion leading to more efficient and cost-effective resolution of important radiation protection issues. Within the NEA, this work has contributed significantly to maintaining the appropriate equilibrium among all concepts necessary for full-bodied and mature discussion of the regulation and research associated with nuclear power.

## **1.2 Mandate of the Committee on Radiation Protection and Public Health (CRPPH)**

(Last updated: Approved by CRPPH in March 2005, by the NEA Steering Committee in April 2005)

The general objective of the NEA in the field of radiation protection is to contribute to the adoption and the maintenance of high standards of protection for workers, members of the public, and the environment in all activities involving the use of ionising radiations, and particularly in the field of nuclear energy.

In this context, the mandate of the Committee on Radiation Protection and Public Health (CRPPH) shall be:

- to provide a forum for the exchange of information and the transfer of experience between national radiation protection and public health authorities on radiation protection policies, regulatory issues and approaches, and their implementation in the various practices and situations involving radiation exposures;
- to seek international understanding and guidance, in support of national authorities, on questions of common concern regarding the interpretation and implementation of the ICRP recommendations and other international standards in various fields of application of radiation protection, and to contribute to the development of harmonised positions in this field;
- to keep under review and contribute to the advancement of the state-of-the-art in the field of radiation protection at the scientific and technical level and promote the preparation of authoritative advice and reference documents, for use by national authorities and policy makers, on emerging policy, regulatory and operational issues, and in those areas where international consensus on radiation protection concepts, regulatory issues and practices is required;
- to advance concepts and policies which make the system of radiation protection more simple, transparent and adaptable to the broader social dimensions of decision making in complex radiological situations; and
- to promote and initiate international co-operative activities on specific radiation protection and radiation-related public health topics of interest to the NEA's Member countries in the framework of the NEA's Strategic Plan.

In the fulfilment of its mandate, the CRPPH will work in close co-operation with other NEA Committees as appropriate, particularly the Committee on Nuclear Regulatory Activities (CNRA) and the Radioactive Waste Management Committee (RWMC), as well as with the competent bodies within relevant OECD Directorates and other international organisations active in the field.

### 1.3 Strategic Direction and Priorities of the CRPPH

The NEA's Committee on Radiation Protection and Public Health (CRPPH) is a valuable resource for its member countries. The Committee is made up of regulators and radiation protection experts, with the broad mission to provide timely identification of new and emerging issues, and new approaches to addressing ongoing issues, to analyse possible implications, and to recommend or take action to address these issues to further enhance radiation protection regulation and implementation. The regulatory and operational consensus developed by the CRPPH on these issues supports policy and regulation development in member countries, and disseminates good practice.

To proactively assure that this mission can continue to be appropriately addressed, the CRPPH began, in 2004, a study of emerging issues in radiological protection, and of ongoing issues whose management could evolve to remain better in line with social changes. Two parallel paths were followed in 2005: one looking at risk management issues (e.g. social/political, policy, regulation and application) of relevance to radiological protection, and another looking at risk assessment issues (e.g., the possible results of ongoing radiological protection scientific research), and their implications. Similar to the CRPPH Collective Opinion that was published in 1995; these new CRPPH studies have documented the Committee's view of the trends and issues that will be the most significant over the next ten to fifteen years. These documents will be used to alert member countries to these issues and as a guide for the Committee's programme of work for the coming years.

In taking these issues forward in the context of the Committee's work, the CRPPH wishes to apply the stakeholder involvement experience it has gained over the past years, principally through the Villigen workshops. As such, the Committee will sponsor two workshops. The first will be held on the occasion of the 50<sup>th</sup> anniversary of the founding of the CRPPH. In addition to looking back on the Committee's numerous accomplishments and contributions to radiological protection, this meeting will use the risk assessment and risk management challenges, as discussed above, as the basis for the discussion of how national and international organisations can best move forward together to address key issues. The second workshop will build on the Committee's review of scientific developments, focusing on the policy and regulatory implications that could evolve from ongoing research, mostly in the area of radiation biology.

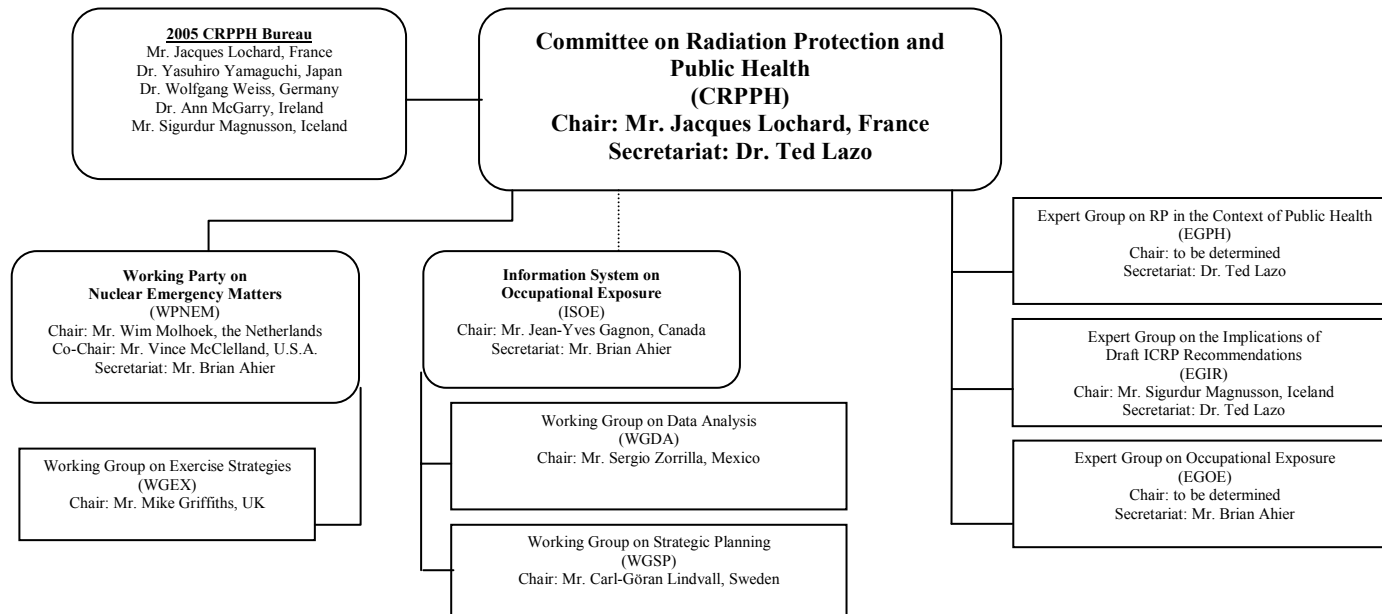
In addition, the CRPPH will launch two new Expert Groups, one to examine policy, regulatory and practical aspects of occupational exposure, and a second to examine how taking a more broadly public-health perspective could affect RP decisions and organisational structures. Further, the Committee will develop three scoping studies as input to the selection of its 2007 programme of work, addressing radiological protection issues arising from potential new nuclear build, addressing stakeholder involvement implications for organisational structures, and identifying possible fruitful areas that the CRPPH could explore with regard to the radiological protection of the environment.

In parallel to this, the Committee has, and will continue to analyse draft ICRP materials, as they become available, for the possible implications and effects they might have on policy, regulation and practice, and will communicate its views to the ICRP. The Expert Group on the Implications of ICRP Recommendations (EGIR) will take this work forward with the 3<sup>rd</sup> NEA/ICRP Forum, the 3<sup>rd</sup> Asian Regional Workshop, and the 1<sup>st</sup> North American Regional Workshop. These high-level policy dialogues to allow experts from NEA member countries to directly voice their opinions to the ICRP, allow the ICRP an opportunity to articulate its recommendations, and afford a venue to forge better understanding and to develop consensus on the way forward.

The Working Party on Nuclear Emergency Matters (WPNEM) and the Information System on Occupational Exposure (ISOE) also continue. The WPNEM will conduct the INEX 3 exercise evaluation workshop to facilitate a better understanding of key issues in consequence management and the transition from urgent response to long-term recovery. The ISOE programme will focus on improving the availability and usefulness of data and analyses, the facility of information exchange among nuclear power plant radiological protection professionals, and the active involvement of participants.

## 11.4 Organisation of the CRPPH and its Sub-Groups

**Figure 1** The following organisation chart represents the structure and activities of the CRPPH for the period from March 2006 to March 2007



### WORKSHOPS

<b>Workshop (July 2006)</b> 3 <sup>rd</sup> Asian Regional Conference on the System of Radiological Protection PC Chair: Dr. Yasuhiro Yamaguchi, Japan	<b>Workshop (August 2006)</b> North American Regional Conference on the Evolution of the System of Radiological Protection PC Chair: Ms. Margaret Federline, USA	<b>Workshop (October 2006)</b> 3 <sup>rd</sup> NEA/ICRP Forum PC Chair: Mr. Jacques Lochard, France
<b>Workshop (May 2006)</b> INEX 3 Summary Workshop PC Chair: Mr. Mike Griffiths, UK	<b>Workshop (May 2007)</b> CRPPH 50 <sup>th</sup> Anniversary Radiological Protection in Today's World: Moving Forward Together PC Chair: Ms. Ann McGarry, Ireland	<b>Workshop (January 2008)</b> Radiological Protection Science and Policy Judgements PC Chair: Dr. Sisko Salama, Finland

### Scoping Studies

- Ad-Hoc Scoping Group on Best Available Techniques and New Nuclear Build
- Ad-Hoc Scoping Group on the Justification and Optimisation of New Nuclear Build
- Ad-Hoc Scoping Group on the Implications of Stakeholder Involvement on Organisational Structures

## **2. Detailed Working Party and Expert Group Accomplishments in 2005 and Plans for 2006**

Following the Statute of the OECD Nuclear Energy Agency, the CRPPH has focused its activities on radiation protection as it applies to nuclear fuel cycle installations. Because, however, radiation protection in all aspects (nuclear power, industrial, medical, research, etc.) is governed by the same philosophy, the work of the Committee is often equally applicable to many other radiation applications.

Within these bounds, in order to maximise the efficiency of its limited resources, the CRPPH has focused on only a few significant and specialised areas of work. In general, emerging issues in radiation protection are addressed, with the objective of achieving international understanding and, where possible and appropriate, consensus. To accomplish this, the CRPPH has established Working Parties, which address topical areas requiring a certain continuity of effort over time, and Expert Groups, which are very task oriented and term limited.

For the past several years, the Committee has spent considerable effort in discussing the internationally accepted system of radiation protection, as detailed in the recommendations of the ICRP, and its place and evolution in modern society. Various aspects of this broad topic have been addressed by the Committee's Expert Groups to enlighten and focus discussions and efforts to promote responsible evolution towards a new system of radiation protection. Close collaboration with the ICRP has facilitated this work, and heightened its effectiveness. In terms of more operational concerns, two Working Parties have been addressing the issues of occupational exposure at nuclear power plants, and nuclear emergency planning, preparation and management.

The work of the CRPPH is divided into two broad areas: conceptual and policy issues; and operational radiation protection topics. This Summary Report lists achievements during the period since the last meetings of the CRPPH [March 2005], and future plans for the period until the next CRPPH meeting [March 2006 to May 2007].

## 2.1 Completed and Ongoing Groups

### **Working Party on Nuclear Emergency Matters (WPNEM)**

#### **Summary of Accomplishments in 2005 and Plans for 2006**

*Working Party Chair: Wim Molhoek, VROM, Netherlands*

#### **Background and Strategy**

The NEA has a long tradition of expertise in the area of nuclear emergency policy, preparedness and management. The work focus as carried out by the WPNEM is on improving the effectiveness of national and international nuclear emergency preparedness and management. A key approach to this has been the preparation and conduct of International Nuclear Emergency Exercises, the INEX series. The NEA developed and held in 1993 the first of these, INEX 1, to study the international aspects of emergency communication, coordination and response. This led to the development of the four INEX 2 command-post exercises (1996-99) and the follow-up INEX 2000 exercise in 2001. Analyses of these exercises and a desire to better manage the later phases of an emergency lead to the development of the 2005 INEX 3 consequence management exercise.

For 2006-07 the Working Party will continue developing and testing of new approaches to improve national and international emergency planning, preparedness and management. Specific activities include the INEX 3 exercise analysis and follow-up international evaluation workshop; completion of an exercise strategies document; and a proposal for the next INEX series. Collaborative work with other international organisations will continue. This strategic direction is reflected in the new WPNEM Terms of Reference.

#### **WPNEM Accomplishments and Products: 2005**

- **INEX 3 Consequence Management Exercise**

In 2003-04, the INEX 3 Preparation Group developed detailed technical material for the INEX 3 table-top consequence management exercise focusing on decision-making in the later phases after a nuclear or radiological incident. Exercise objectives covered agricultural, food and “soft” countermeasures, recovery management and public information. These exercises were conducted in 2005 and early 2006 by about 15 participating countries, and will be followed in May 2006 by an international evaluation workshop. The workshop planning group was created in 2005 to begin preparations for the workshop.

##### **Products:**

National exercise conduct and evaluations; reporting at the 24<sup>th</sup> WPNEM meeting (Dec 2005)

INEX-3 International Evaluation Workshop preparations and 1<sup>st</sup> announcement

- **Working Group on Exercise Strategies**

The WPNEM working group on exercise strategies met in 2005, and prepared a draft nuclear emergency exercise strategy document addressing issues such as the strategic objectives for exercises, types and frequency of exercises, and maximising efficiency and value. The document builds on the experience of the WPNEM and when completed will provide emergency management authorities with policy-level strategies and guidance for emergency exercise programs.

##### **Products:**

Draft document on Strategy for Developing and Conducting Nuclear Emergency Exercises

- **Future Priorities**

The Sub-Group on Future Priorities met in 2005 and prepared new draft WPNEM Terms of Reference to replace those that will expire in 2006. These were approved by the WPNEM at its 24<sup>th</sup> meeting (Dec 2005), and will be subsequently presented to the CRPPH for approval. The focus is on activities leading to improvements in emergency management systems (planning to recovery), with a view towards rehabilitation, and in coordination with member countries and international organisations. A pillar of work remains the conduct and follow-up of exercises.

**Products:**

Proposed WPNEM Terms of Reference (2006-2009), for approval by CRPPH (Mar 2006)

- **Collaborative Projects**

The joint OECD/EC Seminar on Emergency and Risk Zoning around NPPs (Petten, Netherlands, April 2005) was connected with work of the NEA Committee on the Safety of Nuclear Installations on the use of PSA studies in sizing emergency planning zones. The NEA Nuclear Law Committee conducted a Workshop on Indemnification of Damage in the Event of a Nuclear Accident in May 2005 (Bratislava, Slovak Republic). The WPNEM established close working relationships with both groups, with a view towards possible future collaborative work.

**Products:**

Participation in the April 2005 Seminar on Emergency and Risk Zoning around NPPs

Participation in the May 2005 Workshop on Indemnification of Damage in the Event of a Nuclear Accident

Consideration by the Working Party of possible future activities

- **Co-ordination with IAEA Activities: NCA3 / IACRNA**

The NEA participated in the 3<sup>rd</sup> Meeting of the National Competent Authorities under the IAEA emergency conventions, in order to facilitate coordination of activities between the NCA Coordinating Group and the WPNEM. In Oct 2005, the NEA hosted the 18<sup>th</sup> meeting of the Inter-Agency Committee on the Response to Nuclear Accidents (IACRNA), for which the IAEA provides the Secretariat.

**Products:**

Participation in the 3rd Meeting of the IAEA National Competent Authorities

Participation in the 18<sup>th</sup> Meeting of the IACRNA

## **WPNEM Activities and Planned Products: 2006**

### **1. INEX 3 International Evaluation Workshop Conduct and Follow-up Action**

Participating countries conducted their INEX 3 exercises in 2005 and early 2006. With the support of the United States Department of Energy, the INEX3 Workshop Planning Group will evaluate the results, and prepare and conduct the follow-up evaluation workshop in May 2006 in Paris, with participation from about 20 countries. The WPNEM will evaluate the post-workshop outcomes and reviews at its 25<sup>th</sup> and 26<sup>th</sup> meetings with respect to possible future areas of work and coordination with other WPNEM activities.

**Products:**

Analyses of INEX3 exercise evaluation reports (Jan-Mar 2006)

INEX 3 international evaluation workshop (May 2006)

INEX 3 workshop and exercise evaluation report (December 2006)

## **2. Strategy for Nuclear Emergency Exercises**

The exercise strategy sub-group will finalise the strategy document for nuclear emergency exercises, bearing in mind possible coordination with IAEA on the topic of implementation of lessons learned, and taking into consideration the INEX 3 outcomes.

### **Products:**

Draft document on Strategy for Developing and Conducting Nuclear Emergency Exercises presented to the Working Party (November 2006) for review and approval

## **3. Proposal for next INEX Series**

As the INEX 3 exercises and evaluation moves towards completion, the WPNEM will begin an analysis of the types of issues that could be usefully investigated in the next series of exercises, as well as possible exercise formats and timelines. This analysis will take into consideration the INEX 3 outcomes, as well as other priority areas identified by the WPNEM members.

### **Products:**

Draft proposal for the next INEX series exercise for presentation to CRPPH (March 2007).

## **4. Considerations for Decision Making**

At the 24th WPNEM meeting, it was suggested that national authorities could benefit from strategic guidance on considerations for decision making. This would take into consideration an analysis of best practices, as well as areas for improvement in national and international decision making and countermeasures implementation, based on practical emergency management experience. The implications of the INEX 3 outcomes and the need for international harmonisation of decisions should also be analysed.

### **Products:**

Draft work proposal for presentation at the 25th WPNEM meeting (June 2006).

Draft report on considerations for decision making (Spring 2007)

## **5. IAEA Activities: IACRNA**

The NEA will participate in the June 2006 IACRNA meeting of Joint Sponsors of the Joint Radiation Emergency Management Plan, with a view towards possible revision of the text describing the NEA role, as carried out by the WPNEM, and co-sponsorship by the NEA.

### **Products:**

NEA participation in the June 2006 IACRNA meeting of the Joint Radiation Emergency Management Plan

Draft revision of the NEA responsibilities under the Joint Plan

Co-sponsorship of the new Joint Radiation Emergency Management Plan

## **Information System on Occupational Exposure (ISOE)**

### **Summary of Accomplishments in 2005 and Plans for 2006**

*ISOE Steering Group Chair: Mr. Jean-Yves Gagnon, Gentilly-2 NPP, Canada*

#### **Background and Strategy**

In response to pressures from deregulation and ageing of the nuclear power plant fleet, radiation protection personnel have found that occupational exposures are best managed through proper job planning, implementation, and review to ensure that exposures are “as low as reasonably achievable” (ALARA). A prerequisite for this is the timely exchange of data, techniques and experience on dose and dose reduction. To facilitate a global approach to this, the NEA launched the ISOE Programme in 1992 as a forum for radiation protection experts from utilities and regulatory authorities to discuss and coordinate international cooperative undertakings for the radiological protection of nuclear power plant workers. Since 1993, the IAEA has co-sponsored the programme, thus allowing participants from non-OECD/NEA countries, and since 1997 has formed a Joint Secretariat with the NEA. ISOE includes the world’s largest occupational exposure database, and a network of utility and authority radiation protection experts for the exchange of experience, information and lessons learned. Four regional ISOE Technical Centres manage the day-to-day technical operation.

For 2006-07, the ISOE Programme will continue to concentrate on the exchange of good practice and experience in the area of occupational exposure reduction at nuclear power plants. It will collect and analyse occupational exposure data, and provide an information exchange forum for utilities and regulators. It will implement improvements identified through an ongoing strategic programme analysis, and previous evaluations. Accessibility will be enhanced through ongoing migration of resources to a unified web-based information portal, with the objective of better meeting users needs and involvement.

#### **ISOE Accomplishments and Products: 2005**

- **Status of ISOE Participation**

As of 2005, the ISOE programme included 71 Participating Utilities (332 operating reactor units; 39 shutdown units) in 29 countries, and 26 Participating Authorities in 25 countries. The ISOE database itself contained occupational exposure data at 402 operating commercial reactors in 28 countries, thus covering 91% of the world’s total of 442, as well as dose data from 75 reactors which are shut-down or in some stage of decommissioning.

- **ISOE Data Collection, Databases and Analyses**

A key aspect of the ISOE Programme is data collection and analysis, such as the bench-marking of annual occupational exposure trends. In addition, the ISOE Technical Centres perform specialised data analyses, data research, and site benchmarking visits. Results are published in the ISOE Annual Reports and Information Sheets. The ISOEDAT software for data input, handling, and analysis continues to be used, and in 2005, the data analysis module was migrated to the web-based ISOE Network.

#### **Products:**

2004 data collection and integration into the ISOE databases. Database distribution to ISOE Participants via CD-ROM, FTP, and ISOE Network (December 2005)

Approval of ISOEDAT web migration business plan, and launching of development Phase 1 – ISOEDAT data analysis module (November 2005)

Occupational Exposures at Nuclear Power Plants: Fourteenth Annual Report of the ISOE Programme, 2004 (spring 2006)

Three ISOE-organised Technical Centre site benchmarking visits

ISOE Information Sheets (continuous)

ISOE contribution to the Occupational Exposure section of the 2007 UNSCEAR

- **ISOE Information and Experience Exchange**

The ISOE programme sponsors a broadly-attended annual International ALARA Symposia, traditionally alternating between Europe and North America, but with plans to rotate through all ISOE regions. The objectives are to share experience in ALARA implementation and occupational exposure management, and to host topical sessions for utilities and regulators. The 2005 International ALARA Symposium took place in North America, and the 2006 Symposium will be held in Essen, Germany. Technical Centres also host regional Symposia to meet regional needs. Regional symposia conducted during 2005-06 included the North American Symposium and the first Asian Symposium. The ISOE Programme also produces the ISOE News which summarises relevant information from within ISOE to promote ISOE at utilities and regulatory authorities. Finally, the Steering Group approved the launch of the revamped ISOE Network to provide the ISOE membership with a “one-stop” web-based information and experience exchange portal.

**Products:**

2006 ISOE International ALARA Symposium, March 2006 (Essen, Germany)

2006 North American ISOE ALARA Symposium, January 2006 (Orlando, Florida)

2005 ISOE Asian ALARA Symposium, November 2005 (Hamaoka, Japan)

2005 ISOE International ALARA Symposium / North American ALARA Symposium, January 2005 (Miami, Florida)

ISOE News (Issues 5-8)

Revamped ISOE Network ([www.isoe-network.net](http://www.isoe-network.net))

- **ISOE Working Group on Strategic Planning (WGSP)**

The WGSP is tasked to provide suggestions to the ISOE Steering Group about strategic options. Outcomes will address possible improvements to ISOE products, activities and organisation, with a view towards renewed ISOE Programme Terms and Conditions (2007). A WGSP goal is to develop a strategy that builds on ISOE strengths in order to better meet the needs of the ISOE members, and encourage their active and timely participation.

**Products:**

Work Status and Proposal for the 15th ISOE Steering Group Meeting (approved Nov 2005)

- **International Cooperation**

In order to ensure coordination with other relevant international organisations, the Joint Secretariat participated in the January 2006 meeting of the Steering Committee for the International Action Plan for Occupational Radiation Protection.

**Products:**

Participation in the International Action Plan Steering Committee (January 2006)

## **ISOE Activities and Planned Products: 2006**

### **1. Data Collection, Databases and Analysis**

The ISOE programme will continue to collect occupational exposure data at nuclear power plants through the regional Technical Centres. The Technical Centres, Working Group on Data Analysis and Secretariat will perform data analyses to facilitate the sharing of benchmarking information and good practices, and distribute the results in the 15<sup>th</sup> Annual Report and Information Sheets. The web-enabled ISOEDAT system will be promoted as the main data analyses application; database updates will continue to be issued via CD-ROM and secure FTP. Web-enabled ISODAT data input modules will be developed for testing during early 2007.

#### **Products:**

Collection of 2005 data and integration into the ISOEDAT databases. Distribution of database to participants via CD-ROM, FTP, and ISOE Network (December 2006)

Prototype web-enabled data entry modules for ISOEDAT (December 2006)

15th Annual Report of the ISOE Programme, 2005 (autumn 2006)

Renewed Terms of Reference for the Working Group on Data Analysis (November 2006)

Technical Centre Information Sheets (continuous)

### **2. Information and Experience Exchange**

The ISOE information and experience exchange network will continue through the organisation and hosting of the international and regional ISOE ALARA Symposia, and the through the ISOE Network and specialised publications. Development of the ISOE Network will continue with WGSP guidance and Steering Group direction in order to create an effective information and experience exchange tool. Dissemination of products will be improved through the development of unified ISOE contact lists.

#### **Products:**

2007 ISOE International ALARA Symposium, January 2007 (Ft. Lauderdale, Florida)

2006 ISOE Asian ALARA Symposium, October 2006 (Kashiwazaki, Japan)

Proceedings: 2006 ISOE International ALARA Symposium posted to ISOE Network (June 2006)

Development of the ISOE Network (continuous)

Issue news and information through the ISOE News (continuous)

### **3. Operations and Organisation**

The ISOE Working Group on Strategic Planning will investigate in detail the identified strategic areas, based in part on direct user feedback, propose improvements to the ISOE products, activities and organisation, and prepare the new ISOE Terms and Conditions due for renewal in 2007. The ISOE programme will continue implementation other suggested improvements from the 2003 ISOE evaluation, including reinforcing the National Co-ordinator role, and promoting of the ISOE System;

#### **Products:**

Analysis of ISOE user survey feedback (September 2006)

Report on Strategic Options and renewed ISOE Terms and Conditions (Nov 2006)

Topical session for National Coordinators (Nov 2006)

Develop and issue promotional letters and documentation aimed at high level management in utilities and regulatory authorities (Spring 2006)

## **Expert Group on the Implications of ICRP Recommendations (EGIR)**

### **Summary of Accomplishments in 2005 and Plans for 2006**

Expert Group Chair: Mr. Sigurdur Magnusson,  
*Icelandic Radiation Protection Institute, Iceland*

#### **Background and Strategy**

Since 1990 when the International Commission on Radiological Protection (ICRP) issued its most recent general recommendations for a system of radiological protection in Publication 60, the ICRP has continued to clarify and update its position by issuing subsequent, subsidiary recommendations on specific topics. Approximately ten years after the issuing of Publication 60, a period during which the Commission has issued 25 subsidiary recommendations, the ICRP has launched a process of consolidating, and, more importantly, updating its recommendations to better reflect modern scientific and social views of risk and risk management.

The CRPPH has, throughout its existence, been interested in the development of recommendations by the ICRP. Recently, the work of several of the CRPPH Expert Groups (e.g. studying Controllable Dose, Evolution of Radiation Protection, the Processes of Stakeholder Involvement, Implications of ICRP Recommendations, Regulatory Authorisation) has been aimed at developing evolutionary ideas and suggestions that the ICRP can take into account in its work. Through this work, which has been sent directly to the ICRP for its consideration, the CRPPH has become an active partner with the ICRP, providing the views of regulators and experts from the NEA's 28 member countries.

The CRPPH will continue to provide its views on ICRP draft recommendations, as they become available, through the EGIR, collecting input from all interested Standing Technical Committees (e.g. the RWMC, CNRA, NDC and the NSC).

#### **EGIR Accomplishments and Products: 2005**

- **Expert Group Dormant during 2005**

The Expert Group presented the results of its 2004 discussions to the CRPPH during its March 2005 meeting. However, as the ICRP did not issue new draft recommendations for comment, no new work was performed by the Group during 2005.

It should be noted that the ICRP did solicit comments, during a three month period, on two draft "foundation" documents during 2005:

- Optimisation of Radiological Protection
- Assessing Dose to the Representative Individual

The CRPPH Bureau agreed that Committee members should be informed of this opportunity, but did not feel that there was sufficient time to collect comments from the other relevant NEA Standing Technical Committees, and to convene the EGIR for a formal analysis of the possible implications of these documents.

## **EGIR Activities and Planned Products: 2006**

### **1. Analyse the next ICRP draft recommendations**

Based on the comments that have been received on the previous draft ICRP recommendations, and on discussions within the ICRP Main Commission, it is expected that a new draft will be issued for comment before summer 2006, and that comments will once again be solicited very broadly. It is proposed that the Secretariat will again request comments from all interested NEA Standing Technical Committees, and the EGIR will again perform an analysis, focusing on possible implications for policy, regulation and implementation.

The ICRP Main Commission is focusing its efforts on approving the final recommendations at its November 2006 meeting. The tentative schedule for the next draft recommendations calls their release approximately the end of May 2006. Given these constraints, the need for CRPPH members to have sufficient time to analyse the next draft within their organisations, and the need to collect input from other NEA standing technical committees, the EGIR report will need to be reviewed and approved by the CRPPH by correspondence. The final report will be presented during the 3<sup>rd</sup> NEA/ICRP Forum (see later in this report), and will be submitted to the ICRP for its consideration.

#### **Products:**

EGIR analysis of further ICRP draft recommendations

## **Expert Group on the CRPPH Collective Opinion (EGCO)**

### **Summary of Accomplishments in 2005**

*Expert Group Chair: Mr. Jacques Lochard, CEPN, France*

#### **Background and Strategy**

In 1993, the CRPPH held a workshop titled, *Radiation Protection on the Threshold of the 21<sup>st</sup> Century*. This followed the development and issuing of ICRP Publication 60, and was at the beginning of a period of adaptation, implementation and change. As such, the CRPPH felt that it would be useful to scan the horizon and see what types of issues could arise in the near-term future, and to study their possible implications. The intention of this effort was to help member country governments to be better prepared to guide their national policy and application through this period of flux. As a result of this workshop, the CRPPH published, in 1994, a summary document titled, *Radiation Protection Today and Tomorrow: a collective opinion of the CRPPH*. In addition to the value that this work brought to member countries of the NEA, it also served as a list of issues and areas to be further studied by the CRPPH. The Collective Opinion, in effect, became the blueprint of the Committee's Programme of Work for almost 10 years. Since its publication, the CRPPH has worked to address the topics and areas that were identified, and has published reports and studies in all the major areas that were identified.

In 2005 the NEA issued a new Strategic Plan (2005 – 2009), and as part of this effort all the NEA's Standing Technical Committees, including the CRPPH, reviewed and updated, as needed, their Mandates. Also importantly, the ICRP will issue new recommendations, perhaps as early as 2006. In this context it is very appropriate for the CRPPH to once more begin to identify topics and areas that, in the mid- to long-term future, will or could have significant influence on radiological protection policy, regulation and application. The ultimate objective of this work is to develop a new CRPPH Collective Opinion that will provide the Committee with strategic direction for the coming five to ten years.

#### **EGCO Accomplishments and Products: 2005**

- **Completion of report**

Based on comments from the CRPPH at its March 2005 meeting, the EGCO continued to develop its report. As requested by the CRPPH, the Group has articulated its study of emerging risk management issues (social, political, regulatory, operational, etc.) with the study of emerging risk assessment issues (challenges to our scientific understanding of radiation-induced detriment) being performed by the EGIS (see below) to assure that the documents are coherent, consistent and complimentary. With this information, the EGCO has developed its draft report for review by the CRPPH.

**Products:**

Draft EGCO report to CRPPH (January 2006)

#### **EGCO Activities and Planned Products: 2006**

##### **1. Finalisation of the Draft EGCO Report**

Based on comments from the CRPPH, the EGCO will revise its report and for submission to the full CRPPH for review. The Group will incorporate any comments from the Committee. The Bureau will judge whether received comments require plenary discussion of the report during the 2007 CRPPH meeting, or whether the report can be considered as finalised and published. In either case, the report will serve as input to discussions of the way forward during the CRPPH 50<sup>th</sup> anniversary meeting.

**Products:**

Final EGCO report to CRPPH (September 2006)

##### **2. Termination of Mandate**

With the approval of its final report, the Group will have completed its mandate and will disband.

## **Expert Group on the Implications of Radiological Protection Science (EGIS)**

### **Summary of Accomplishments in 2005 and Plans for 2006**

*Expert Group Chair: Prof. Henri Metivier, Retired IRSN, France*

#### **Background and Strategy**

At the same time as national interest in radiological protection science seems to be growing, particularly in areas such as the effects of low-dose and chronic exposures, national scientific infrastructures necessary to address such questions seem to be shrinking. Preliminary discussion of the new CRPPH Collective Opinion identified that developments in these and other radiological protection science studies could potentially have key mid- and long-term influences on radiological protection policy, regulation and application. In order to most effectively utilise national and international resources, the Committee agreed to establish an Expert Group, under the direction of the EGCO, to focus on science at the service of mid- and long-term policy needs.

The CRPPH agreed that EGIS should survey currently ongoing projects in radiological protection science, and discuss the possible implications that their results could have on our current approaches to risk assessment. This should focus on projects expected to yield results in the short-term, the coming 3 to 10 years. Based on this survey, the Group should attempt to identify scientific questions that need to be answered in order to support the making or evolution of policy decisions. This should focus on longer-term projects, more in the 10 to 30 year time-frame. The 1998 publication of the Committee, *Developments in Radiation Health Science and their Impact on Radiation Protection*, should be used as a starting point.

#### **EGIS Accomplishments and Products: 2005**

- **Assessment of emerging challenges**

This task was initiated in parallel to the work of the EGCO, and reports to the EGCO in order to assure scientific coherence with policy, regulation and application objectives. Thus, based on discussions during the CRPPH Topical Session (March 2004) and the Brainstorming discussions (June 2004) the Expert Group on the Implications of Radiological Protection Science (EGIS) began its work. The Group held three meetings during 2005, and met twice in combined sessions with the EGCO. The main lines of the report will be completed in time for the March 2006 CRPPH meeting.

**Products:**

Presentation of the main lines of the report to the CRPPH for discussion (March 2006)

#### **EGIS Activities and Planned Products: 2006**

##### **1. Completion of report**

Based on comments from the CRPPH at its March 2006 meeting, the EGIS will continue to refine its report with a final meeting in April 2006, and will submit its final draft report to the CRPPH for approval, by correspondence, in September 2006. The Bureau will judge whether received comments require plenary discussion of the report during the 2007 CRPPH meeting, or whether the report can be considered as finalised and published. In either case, the report will serve as input to discussions of the way forward during the CRPPH 50<sup>th</sup> anniversary meeting.

**Products:**

Final EGIS report to CRPPH (September 2006)

Review and Approval of final publication (Late 2006)

##### **2. Termination of Mandate**

With the approval of its final report, the Group will have completed its mandate and will disband.

## **Expert Group on Radiological Protection Science at the Service of Stakeholders (EGSS)**

### **Summary of Accomplishments in 2005 and Plans for 2006**

*Expert Group Chair: Mr. C. Rick Jones, former CRPPH Chair, United States*

#### **Background and Strategy**

The recognition of the need for and usefulness of stakeholder involvement in decision making has enlarged the focus of radiological protection in recent years. The CRPPH has for some time focused a significant part of its programme of work on stakeholder involvement, primarily through the series of workshops held in 1998, 2001 and 2003 in Villigen, Switzerland. A key result of these workshops suggests that when stakeholders are involved in radiological risk assessment and management, and science is brought to the service of “inclusive” decision-making processes, the resulting decisions can be of higher quality and greater sustainability than had stakeholders and radiological protection scientists and professionals not worked together towards a solution.

The rehabilitation of contaminated lands and facilities often involves significant stakeholder concerns. Work to rebuild the lives of those living in the areas affected by the Chernobyl accident is a prime example of this, and with 2006 marking 20 years since the accident, the EGSS has revisited this case. While clearly not all this experience is applicable to other circumstances in other countries, much can be gained by studying its stakeholder involvement aspects. Particular areas of interest include the interaction of stakeholders with radiological protection specialists, and the development of practical radiological protection approaches (a radiological protection culture) for all those living in a contaminated environment. A broad overview of the situation in the Chernobyl-contaminated areas yields detailed understanding of the magnitude and varieties of problems and issues that would be posed by any large-scale contamination situation.

#### **EGSS Accomplishments and Products: 2005**

- **Development of Draft Report**

The EGSS began its work based on the experience from the Villigen workshops, and taking into account the two previous reports produced by the CRPPH on the Chernobyl accident. The Group developed its report, along the lines described above, over the course of three meetings.

**Products:**

Presentation of preliminary results at the IRPA regional meeting in Salamanca, Spain (November 2005)

Draft Report for presentation to the CRPPH for review and approval (March 2006)

#### **EGSS Activities and Planned Products: 2006**

##### **1. Completion of report**

Based on comments and provisional approval from the CRPPH at its March 2006 meeting, the EGSS will finalise its report, and with the approval of the CRPPH Bureau, the report will be published.

**Products:**

Draft report to CRPPH for review and approval (March 2006)

Presentation of the CRPPH report (e.g. 2006 NCRP meeting on Chernobyl; Public Information Materials Exchange (PIME), Vienna, February 2006; European Regional IRPA Congress, Paris, May 2006)

##### **2. Termination of Mandate**

With the approval of its final report, the Group will have completed its mandate and will disband.

## **Evolution of the System of Radiological Protection**

### **NEA Collaboration with the ICRP**

#### **Summary of Accomplishments in 2005 and Plans for 2006**

#### **Background and Strategy**

Particularly since the ICRP initiated the development of new recommendations beginning in 1999, the CRPPH has worked to actively engage with the ICRP on this important issue. Work has included CRPPH development of its own proposals for evolution of the system of radiological protection, through the contributions of several Expert Groups (WPCD, EGRP, WPSA, EGPSI, EGRA). It has also included constructive dialogue with the ICRP through Expert Group commentary on ICRP draft material (EGIR), direct discussions with the ICRP Chair, and co-sponsorship of fora and workshops to collect stakeholder views (Taromina 2002, Tokyo 2002, Lanzarote 2003, Tokyo 2004). The objective of this work is to assist the ICRP to reflect the modern needs of policy makers, regulators and practitioners in their new recommendations. The CRPPH will continue to offer close and useful collaboration with the ICRP as the development of new ICRP recommendations continues.

#### **NEA/ICRP Collaboration Accomplishments and Products: 2005**

- **Information on ICRP Draft Foundation Documents**

The ICRP spent 2005 analysing and assessing comments that it had received on the draft recommendations it released in June 2004. As such, no further draft recommendations were released in 2005. However, the ICRP did release, for comment, two foundation documents that are of relevance to the work of the CRPPH: Optimisation of Radiological Protection; and Assessing Dose to the Representative Individual. Although the Committee decided not to hold formal meetings to discuss the implications of these documents, through the EGIR, the Secretariat alerted CRPPH members of their availability for comment, and offered to “package” any national comments into a single document, highlighting any commonalities. Too few national comments were sent to the Secretariat for such packaging to be accomplished.

#### **NEA/ICRP Collaboration Activities and Planned Products: 2006**

In continuing its broad collaboration with the ICRP, the CRPPH and the ICRP have agreed to hold a third NEA/ICRP Forum, with a broad group of stakeholders, to present the new recommendations in their final state, and to give the radiation protection community and other key stakeholders the opportunity to have a final dialogue before publication. This proposed forum would provide an opportunity for ICRP to elaborate the thinking behind the final draft of its recommendations and would be a means to further familiarise stakeholders with the new presentation of the basic principles. In this way it would facilitate the implementation of the new recommendations in NEA Member States.

1. **3<sup>rd</sup> Asian Regional Workshop (5 – 6 July 2006)**

As a result of continuing and significant interest in the new ICRP recommendations by NEA member countries in the Asian region, the NEA will organise the 3<sup>rd</sup> Asian Regional Workshop on the Evolution of the System of Radiological Protection. The objective of this meeting is to discuss the new draft recommendations with Asian radiological protection experts, hold a constructive dialogue on the proposed principles of radiological protection, and to focus on specific aspects of their implementation within the Asian context.

**Products:**

3<sup>rd</sup> Asian Regional Workshop on the Evolution of the System of Radiological Protection (July 2006, but dependent on when the draft ICRP recommendations are released)

Proceedings of the Meeting (end 2006)

**2. North American Regional Workshop (28 - 29 August 2006)**

As a result of continuing and significant interest in the new ICRP recommendations by NEA member countries in the North American region, and based on the success of the 1<sup>st</sup> and 2<sup>nd</sup> Asian Regional workshops and the two NEA/ICRP Fora, the NEA will organise the North American Regional Workshop on the Evolution of the System of Radiological Protection. The objective of this meeting is to discuss the new draft recommendations with North American radiological protection experts, hold a constructive dialogue on the proposed principles of radiological protection, and to focus on specific aspects of their implementation within the Asian context.

**Products:**

North American Regional Workshop on the Evolution of the System of Radiological Protection (August 2006, but dependent on when the draft ICRP recommendations are released)

Proceedings of the Meeting (end 2006)

**3. 3<sup>rd</sup> NEA/ICRP Forum (24 – 25 October 2006)**

The CRPPH will organise, in collaboration with the ICRP, the 3<sup>rd</sup> Forum on the Evolution of the System of Radiological Protection. As with the first two fora, participation would include a broad group of stakeholders. The objective of this meeting will be to present the new recommendations in their final draft state, and to give the radiation protection community and other key stakeholders the opportunity to have a final dialogue and input before publication. This forum will provide an opportunity for ICRP to further familiarise stakeholders with the new presentation of the basic principles, and will thus facilitate the implementation of the new recommendations in NEA member countries. As mentioned above, the EGIR will provide a detailed assessment of possible implications.

This meeting will take place in Prague, hosted by the Czech State Office for Nuclear Safety (SUJB).

**Products:**

3<sup>rd</sup> NEA/ICRP Forum on the Evolution of the System of Radiological Protection (24 – 25 October 2006)

Summary of Meeting Results (mid 2007)

Forum Proceedings (mid 2007)

## 2.2 New Groups and Activities

### Expert Group on the Public Health Perspective in Radiological Protection

#### (EGPH)

#### Summary of Plans for 2006

*Working Party Chair: to be determined*

#### Background and Strategy

During the 63<sup>rd</sup> meeting of the CRPPH it was remarked that, in a sense, the Public Health aspect of the Committee's name has been somewhat left aside in the programme of work in recent years. Although protecting public health is clearly the objective of the Committee's radiological protection work, it seems that there is an increasing trend to take a broad overview when considering public health risks, and that objectives and priorities may be addressed differently when viewed from social, public health perspective rather than from a radiological-protection science perspective. In this sense, there is value in thinking more deeply about how a more "public health perspective" might influence radiological protection in general and the work of the CRPPH specifically.

It is thus proposed that the CRPPH create the Expert Group on the Public Health Perspective in Radiological Protection (EGPH) to explore this area. The objective of this Group would be to broadly discuss this issue in a scoping, preliminary fashion, and to present a report to the March 2007 CRPPH meeting identifying topics, if any, that could usefully be explored in more depth. There are several types of issues that could be explored.

- In a very broad sense, the notion of public health is inherently inclusive, not focusing on any single risk or group of risks, but on all aspects that could affect public health. In this context, questions of risk prioritisation and resource allocation are important. In a more technical sense, however, this broad perspective suggests that there should be "commonalities" among the approaches taken to risk assessment and risk management such that public health actions can be evaluated, and broadly rationalised. How could these commonalities be appropriately identified and characterised?
- In terms of prioritisation of actions, from a public health perspective should radon and medical exposures receive more attention?
- How should public health considerations be used when evaluating potential and actual exposures?
- Taking a broader public health perspective can have effects on organisational structures. In the UK, for example, the NRPB has now been incorporated within the Health Protection Agency, suggesting that a new governmental perspective is being taken. What lessons can be learned from this example, and other recent examples of organisational restructuring (e.g. IRSN in France, CNSC in Canada, etc.).
- If nuclear power enters a period of new growth, as some indicators are suggesting, would a broad public-health perspective affect organisational structures, and/or the way that radiological aspects are governed and managed?
- How should the radiological protection community, as a stakeholder, interact with governmental decision-makers who may be considering organisational and structural questions, in order to appropriately participate in the framing of questions and decisions?

- Many members of the public, and other stakeholders, tend to consider radiological protection issues from a broad, public health perspective. How does this affect radiological protection decision-making?
- In the context of a public-health perspective on radiological protection decisions, and in the light of significant scientific uncertainties that continue to exist, the precautionary principle can have a large influence on radiological protection decision making. What approaches have been used in applying the precautionary principle in decision-making, particularly in the context of increasing stakeholder involvement in decision-making processes?
- Justification of actions, optimisation of protection and limitation of exposures have long been the three central principles of the system of radiological protection. Public health is clearly a key point to consider when making decisions regarding application of these principles. What approaches have been used to take public health into account when making such application decisions?
- What links are there between the public-health perspective as described here, and the previous CRPPH work in the area of stakeholder involvement?

### **EGPH Activities and Planned Products: 2006**

The EGPB will discuss the possible implications of taking a more broadly public-health perspective, and report to the CRPPH at its March 2007 meeting.

#### **Products:**

Report to the CRPPH identifying topics in this area, if any, that could usefully be explored in more depth (March 2007)

## Future Perspectives for Radiological Protection

### Summary of Plans for 2006

#### CRPPH 50<sup>th</sup> Anniversary

#### **Radiological Protection for Today's World: Moving Forward Together**

(Topical Session during the 65th Meeting of the CRPPH, 31 May 2007)

#### **Background and Strategy**

The Working Party on Public Health and Safety was created on 21 March, 1957 by the Steering Committee on Nuclear Energy of the Organisation for European Economic Co-operation (OCCE). Fifty years later the CRPPH, the direct descendant of this Working Party, continues to address the needs of its members in the important area of radiation protection and public health. The long history of this work has included many landmark accomplishments, and can be broadly characterised as being forward-looking to identify possible challenges and approaches to address them.

The recent work of the CRPPH has continued this tradition, focusing strongly on the future, particularly in the context of the development of new ICRP recommendations. Work has also included assessments of key radiological science developments, through the EGIS, and significant risk management evolution, through the EGCO that could affect radiological protection in the coming 10 to 15 years. The support of the Japanese government has been instrumental to all this work.

As a result of these studies, the CRPPH believes that, at this moment, although no great changes seem to be appearing, there is a unique opportunity for the radiological protection community:

- to broadly review where we are today, both scientifically and strategically,
- to work together to identify a course of action to address key issues to better integrate radiation protection into society, and enhance our quality of life,
- to streamline activities for a more effective use of limited public health resources.

To celebrate the 50<sup>th</sup> anniversary of the CRPPH and its accomplishments, and to explore how to best move forward together to address key issues, the CRPPH will hold its 50<sup>th</sup> anniversary meeting to discuss the future based on three key pillars:

- **Learning from Experience - Application of the Current International Framework of Radiological Protection:** The ICRP has, since 1999, been in the process of developing new recommendations. The possible changes from the current system (ICRP Publication 60) that have been discussed seem to be based on some new RP science, on the evolution of society's approach to risk identification and management, and on experience gained in applying the current system since its introduction. The recommendation preparation process has involved great willingness on the part of the ICRP to seek and incorporate stakeholder concerns. This openness is sure to continue at the ICRP, and reflects a broader social evolution towards more participative democratic processes in addressing some issues involving risks. Once the final recommendations are issued, there will certainly be a need to discuss their implementation in policy, regulation and practice.

These changes, in ICRP recommendations and in their development processes, raise questions of how we should most effectively operate in the future, and on what precise direction we should take.

- **Improving Sustainability - the Evolution of Society:** As mentioned above, society has broadly evolved over the past 10 to 15 years and is becoming less willing to accept representative governance where they defer decisions to others such as politicians, scientists and organizations. Experience has shown us that there is increasing movement towards participatory governance, where members of

society expect to be engaged in decisions that affect them, the environment, or their community. Not unique to radiological protection, this evolution is in part being motivated by society becoming more risk knowledgeable, and in some cases more risk averse in an ever more technologically driven world. Such concerns by society tend to increase tension between science and the public, resulting in a lack of trust in “institutions” currently making decisions about their safety and security. This growing stakeholder involvement in decision framing and decision making processes has posed challenges to many radiological protection professionals and institutions, and poses questions regarding the distribution of responsibilities among all involved parties.

Although the CRPPH and others have studied these processes, there is still much to learn and implement to foster better and more sustainable decisions regarding radiological protection, to develop processes and tools to better balance issues and concerns in a holistic fashion, and to allow more effective training of young professionals to address these challenges.

- **Robustness of the System - the Evolution of Radiological Protection Science:** Although recent scientific studies of radiological effects do not currently suggest any need to significantly modify our system of protection, there are challenges arising from new scientific knowledge that potentially have implications for the current system of radiation protection and its practical application. For example, some radiation biology and epidemiological studies suggest that, in certain circumstances, we may overestimate or underestimate risks, and that our risk metric, the Sievert, may not be conceptually applicable.

While there is still great uncertainty in how possible scientific results might affect the radiological protection system, these questions suggest that it would be worth while to pro-actively investigate a series of “what if?” scenarios so as to avoid surprises should some or all of these research areas eventually show wide applicability.

In addition to these three challenges, it should also be noted that in recent times many organizational changes, in leadership and/or in structure, have taken place in key radiological protection institutions (e.g. ICRP, IAEA, UNSCEAR, EC, NRPB, IRSN, etc.).

### **CRPPH 50<sup>th</sup> Anniversary Activities and Planned Products: 2006**

Based on these challenges and issues, the Nuclear Energy Agency’s Committee on Radiation Protection and Public Health (NEA/CRPPH) will hold a Topical Session during its annual meeting to celebrate the accomplishments of the CRPPH, to present its views on emerging and ongoing challenges in radiological protection, to listen to the views of top regulatory authorities on challenges in radiological protection, and to discuss among international organisations how to best move forward together to address these challenges.

The NEA/CRPPH is able to make such an offer due to the kind and generous contributions that the Japanese Government has made in support of these activities.

As a result of the workshop, relationships, structures, and possible paths forward should be better understood by all participants, fostering co-operation and collaborative work to best serve public, worker and environmental health and safety.

#### **Products:**

Topical Session Summary paper (Fall 2007)

## **Radiation Protection Science and Policy Judgement**

(Workshop in January 2008)

### **Background and Strategy**

The work of the EGIS represents a broad summary of the key scientific challenges that could arise from ongoing radiobiological research. From this solid base, the possible implications of radiological protection science can be further elaborated. Through its discussions, and through joint sessions held with the EGCO, the EGIS has clearly seen that there is a need for RP policy makers, regulators and practitioners to better understand developments, and possible developments, coming from RP science. At the same time, there is also a need for RP scientists to better understand the broad processes of RP decision making, and to better interact with these processes in terms of furnishing input coming from their research.

Enhancing mutual understanding among RP policy makers, regulators, practitioners and scientists will clearly facilitate prioritisation and decision making in the future, and will help to build trust and confidence in all radiological protection institutions.

### **Bridging Workshop Activities and Planned Products: 2006**

To build more mutual understanding, the CRPPH will sponsor a scientific seminar, and possibly a series of such seminars, where the possible implications of RP scientific research are discussed and debated, in the context of policy and regulatory needs, and of possible scientific results and uncertainties.

In order to appropriately develop the programme for this seminar, the CRPPH will form a programme committee of experts to appropriately prepare such debates. Participation in the Programme Committee preparing this meeting will include representatives from regulators and researchers, and possibly civil society. The meeting itself will need to include such scientific organisations as ICRP Committee 1, UNSCEAR, BEIR, RERF, etc.

A first such meeting could be arranged for the early 2008 time-frame, and should be based in part on the work of the EGIS in identifying possible issues and challenges.

Based on the results of the first meeting, and on progress in scientific developments, the CRPPH could then decide on the need for and timing of possible further seminars, as well as on any other discussion outcomes (e.g. priorities, research, further investigations, etc.) resulting from the conference.

#### **Products:**

A White Paper to help frame the issues and offer options to proceed in order to encourage discussion and decisions on a path forward (May 2007)

Workshop announcements (May 2007), Workshop Final Programme (September 2007)

## **Expert Group on Occupational Exposure (EGOE)**

### **Summary of Plans for 2006**

Working Party Chair: to be determined

#### **Background and Strategy**

The NEA has long been interested in issues relating to the radiological protection of occupationally exposed workers. For example, in 1992, the NEA launched ISOE as a Joint Program for technical information exchange, with the objective to provide a forum for radiation protection experts from utilities and regulatory authorities to discuss and coordinate international cooperative undertakings for the radiological protection of nuclear power plant workers. Since 1993, the IAEA has co-sponsored the programme, allowing participants from non-OECD/NEA countries, and since 1997 has formed a Joint Secretariat with the NEA. This ongoing operational program has proved successful in helping radiation protection experts at utilities and regulatory authorities to better manage occupational exposures at nuclear power plants. ISOE, as a technical exchange program, is relatively independent in terms of its operations, but in accordance with its statute does not address policy issues that might be of relevance to its membership or that could benefit from members' experience.

Given the CRPPH's interest in such policy issues, it is proposed that the CRPPH create an ad-hoc Expert Group on Occupational Exposure (EGOE) to explore policy and regulatory issues in occupational radiation protection across many occupational sectors. The objective of this Group would be to broadly identify and discuss such issues in a scoping, preliminary fashion, and to present a report to the May 2007 CRPPH meeting identifying topics, if any, that could usefully be explored in more depth. In addition to experts nominated from the CRPPH, the ISOE programme would be invited to participate in order to draw on the ISOE experience as it relates to nuclear power plant workers. Benefits would include a closer examination by the CRPPH of policy issues in the area of occupational radiation protection, as well as opportunities for the ISOE programme to have input to policy-related issues of relevance to its members while maintaining its level of independence. It would also allow NEA to further support the work under the International Action Plan for Occupational Radiation Exposure from both a policy and operational perspective. It would not deal with information exchange or analysis within the mandate of the ISOE or other related programmes or networks.

There are several types of issues that could be explored by the EGOE, including:

- What is the current experience in stakeholder involvement in occupational radiation protection, and what is its role in management of occupational exposures?
- What policy, regulatory and operational lessons for can be drawn from a review of the regulatory assessment of ALARA programmes?
- How should dose constraints be applied in regulations? What is the impact on operational programs?
- How might the work of other CRPPH groups or initiatives contribute to the regulation and protection of occupationally-exposed workers, for example in the area of proposed ICRP environmental protection guidance?
- How can ISOE operational experience support the review and development of international guidance and advice for occupational radiation protection, such as the International Basic Safety Standards?
- How can the CRPPH support the work under the International Action Plan for Occupational Radiation Exposure in a complimentary and coordinated manner?

#### **EGOE Activities and Planned Products: 2006**

The EGOE group will identify and discuss policy issues in occupational radiation protection, and present a report to the CRPPH at its March 2007 meeting. The ISOE programme will be invited to participate in this work.

##### **Products:**

- Report to the CRPPH identifying topics in this area that could usefully be explored in more depth by the CRPPH (May 2007)

## Scoping Studies as Input to CRPPH 2007 PoW Selection

### Summary of Plans for 2006

#### Issues surrounding new build of nuclear power plants

(Ad-Hoc Scoping Group, Desk Study)

#### Background and Strategy

Members of the Committee noted that in the current situation, the prospect of new build looks more likely (or is already in hand) in member countries than for the last 15 years or so yet during this time few member countries had seen new build. Therefore it was suggested that the CRPPH explore topics around justification and optimisation of new build and, specifically, around Best Available Techniques for discharge abatement to assist member countries in preparing for the possibility of new build of nuclear power plant.

#### Scoping Group Activities and Planned Products: 2006

Best Available Techniques is a specific area yet would benefit from wider views, for example from possible suppliers and operators of nuclear power plants. Therefore it is proposed that this topic will be taken forward by an ad-hoc working group who will examine the area, in particular considering what the CRPPH could usefully do in this area and how wider views should be integrated into this work.

Many of the questions surrounding justification and optimisation have, to some extent, been investigated by other NEA Committees, notably the Nuclear Development Committee. In order to avoid undue repetition of work, it is suggested that an initial desk study drawing on the work of NEA Committees will be carried out and reported to the CRPPH, in particular identifying areas where further work may be considered. This study will be directed by a Committee Member.

#### Products:

- Presentation of the findings of the ad-hoc scoping group on Best Available Techniques to the CRPPH (May 2007).
- Presentation of the findings of the desk study on justification and optimisation issues surrounding new build to the CRPPH (May 2007).

## **Implications of Stakeholder Involvement on Organisational Structures**

(Ad-Hoc Scoping Group)

### **Background and Strategy**

The Committee on Radiation Protection and Public Health has been exploring the question of stakeholder involvement in radiation protection and public health for several years, notably through the organisation of three Workshops in Villigen in 1998, 2001 and 2003, and including consideration of how radiation protection may be better integrated in society and exploration of the processes and implications of stakeholder involvement in radiation protection decision making. Building on these results, the International Commission on Radiological Protection (ICRP) introduced stakeholder involvement in the draft version of its future recommendations as a means to improve the quality and sustainability of decisions to achieve the best levels of protection of the workers and the public under the prevailing circumstances.

The CRPPH has reached a stage where the implications of stakeholder involvement for radiation protection authorities and expert agencies need to be fully considered, on the one hand in the ways they are structured and organised, on the other hand in the ways they cooperate with stakeholders, especially in the perspective of their contribution to the development of an inclusive governance of nuclear activities.

### **Scoping Group Activities and Planned Products: 2006**

The CRPPH intends to consider and propose new developments in this field at its 50<sup>th</sup> anniversary meeting in 2007. The scoping group will analyse case studies from member countries using an analysis framework that they will develop. From the consequent investigation of the case studies, the group will report on how RP organisations are handling the challenge and opportunity of stakeholder involvement. The report will form a part of the backdrop for the CRPPH's discussions during its 2007 meeting.

#### **Products:**

- Presentation of the scoping group report to the CRPPH (May, 2007)
- Analysis framework for stakeholder involvement for RP organisations

## **Radiological Protection of the Environment: Goals, Objectives and Implications for Policy**

(Scoping Paper)

### **Background and Strategy**

The ICRP is drafting new recommendations which set out tools and a possible methodology for directly protecting the environment from ionising radiation, supported by a committee to investigate this area, because of suspicion that the current system of radiation protection may not be fully adequate in this area, whether materially or only presentationally. This view is supported by NEA work in this area, including a workshop on this topic and a recent review of relevant legislation by the Secretariat. Through this work, a number of issues can be identified as useful prerequisites for further developing the system of environmental radiation protection including: What is pollution? What is the aim of environmental protection? What 'gap' needs to be filled in RP? How should any system interface with approaches for other substances? What are the regulatory implications of different approaches?

It was noted at the 64<sup>th</sup> CRPPH meeting, in 2006, that developments in the field of environmental radiological protection should not take place in isolation from developments in other fields, particularly chemicals regulation, a view taken by the CRPPH's EGIS (page 22) and by ICRP Committee 5 on the environment.

### **Activities and Planned Products: 2006**

The previous section indicates a need for debate and development of this topic within the radiation protection community.

It was therefore agreed that a small ad-hoc working group of members considers key issues in this field of direct interest to the CRPPH and, as appropriate, proposes ideas for a CRPPH workshop or seminar on the environment to address key questions. Such a seminar or workshop will give valuable input to the ICRP and will also identify any particular topics which need further consideration by the CRPPH and the profession in general.

To address the issue of interaction with other, analogous fields of environmental protection, it is proposed that the Secretariat carry out a survey of chemical environmental regulation to identify the main approaches and key similarities or differences with protection of the environment from radioactive substances.

#### **Products:**

- Presentation of study into environmental radiation protection legislation (March 2006)
- Publication of study into environmental radiation protection legislation (October 2006)
- Presentation of study chemical environmental protection (May 2007)
- Report of ad-hoc working group on issues to pursue in environmental radiation protections, conditionally leading to:
  - Seminar/workshop announcements (July 2007), Workshop Draft Programme (October 2007)
  - Seminar/workshop (Spring 2008)
  - Seminar/workshop proceedings (2008)

## 2.3 Other Work of the CRPPH

### Summary of Accomplishments in 2005 and Plans for 2006

In addition to the work carried out by Working Parties and Expert Groups, the Bureau of the CRPPH works closely with the Secretariat to accomplish tasks agreed upon by the CRPPH, but not requiring development by a dedicated group. Several such actions were accomplished, are underway or are planned. Significant activities include:

#### **Review and Possible Revision of the International Basic Safety Standards**

##### **International BSS**

In view of the revision of the ICRP's recommendations, of experience with implementing the 1996 Basic Safety Standards, and of new IAEA standards developed since 1996, the six co-sponsoring organisations agreed in a meeting in Paris, hosted by the NEA, in October 2005, that the current BSS should be reviewed by each of the co-sponsoring organisations, and that proposals for areas that should be revised should be brought to the next meeting of the Inter-Agency Committee on Radiation Safety. This meeting is scheduled to take place on the 8<sup>th</sup> and 9<sup>th</sup> of May, hosted by the WHO. It is likely that, at this meeting the BSS Joint Secretariat will be reactivated to begin the work of revising the International BSS.

As a co-sponsor of the current BSS, the NEA will take an active role in the development of the new BSS. For this work, the NEA could take the lead in drafting text in its area of expertise, such as potential exposures, emergency response, and dose constraints, should the Joint Secretariat ask the NEA to do so. Review of the existing BSS, and the development of the new BSS should involve as broad an NEA participation as possible, and certainly all relevant NEA Standing Technical Committees should be invited to participate. The idea that the NEA could also perform an EGIR-like process (review for possible implications) on various drafts of the new BSS was also considered as possible, if appropriate.

Although there is no rigid schedule for the development of the new International BSS, the task is expected to take several years. It is anticipated that the review of the current BSS will be completed in by about mid 2006, and that the process to develop text for the new BSS will begin in late 2006 or early 2007.

##### **European Union BSS Directive**

It should also be noted that the European Union's Basic Safety Standard Directive is also in the process of being reviewed for possible revision. The NEA Secretariat participates as an observer at meetings of the EC EURATOM Article 31 Group of experts, and is thus liaising with the EC secretariat on this important issue.

This work is being lead by the EURATOM Article 31 Group of Experts. The Commission uses Directives, which are binding as to the achievement of objectives but which MUST be transposed into national legislation, and Regulations, which are directly binding and need no transposition. The EURATOM Article 31 Group of Experts is responsible for advising the Commission on radiation safety matters, and must be asked for their opinion on draft legislation based on chapter 3 "Health and Safety" of the Treaty. The Article 31 group has established a sub-group to identify points of the current EC Directive that could be updated. Preliminary work indicates the following areas:

- Strengthen provisions on NORM
- Strengthen provisions on Exclusion, Exemption and Clearance
- Strengthen provisions on emergency response levels for better harmonisation and coherence of urgent countermeasures

These areas, and perhaps others, will be discussed in reflection papers that will be considered by the Article 31 Group, and will contribute to discussions of new text. The current concept of the time schedule for this work is aiming at a Commission proposal for a new Directive to be adopted in approximately 3 years (e.g. about November 2008). This would leave time for the ICRP to complete its work and be appropriately taken into account, and is compatible with the mandate of the current Article 31 Group of Experts (June 2010).

It should be noted that the Commission is interested in simplifying and consolidating its directives. As such, the next EC BSS may consolidate the current BSS, the outside worker Directive, and the Directive on public information following an emergency situation. The Medical Directive, however, is felt to be sufficiently up-to-date, apart and self-standing that it will probably not be included in this consolidation process. It was also noted that some aspects of nuclear safety and radioactive waste management, which have been proposed in the “nuclear package”, may also be considered for inclusion in the new BSS.

As a result of these considerations, Commission desires to work towards, as best possible, coherence between the texts of the EC BSS Directive and the International BSS. This should include the appropriate sharing of information (e.g. the reflection papers, background documents from the IAEA or other Organisations, etc.), and the sharing of draft texts. All organisations should work to avoid duplication of efforts by considering the sharing of tasks.

The EC will further explore the possibilities for sponsorship, bearing in mind that the process for formal endorsement by the Council would likely be rather cumbersome. A more easily achievable option is to associate very closely the Article 31 Experts with the revision of the International BSS, and seek opinions of co-sponsoring organisations when a final draft is available.

#### **Assistance to the French Government: Medical Aspects of Nuclear Terrorist Attacks**

In the context of a group of Health Ministers from the G7 countries + Mexico, the French Government agreed to lead an effort to identify areas where medical response to nuclear terrorist attacks (using radiological dispersion devices or improvised nuclear weapons) could be improved. The NEA Secretariat was asked, and agreed to participate in this project, attending two group meetings organised under the auspices of the Global Health Security Action Group (GHSAG). Discussions within this group have focused on various medical aspects of emergency response, drawing heavily on the experience from the NEA’s INEX exercises.

At a meeting of the G7 + Mexico Health Ministers, held in Rome in November 2005, it was agreed that the French Government would host a workshop to discuss the key issues in this important area. The NEA hosted a workshop on the 19<sup>th</sup> and 20<sup>th</sup> of June 2006, to discuss these issues. A series of recommendations to the G7 + Mexico Health Ministers was developed and agreed upon by participants.

#### **Stakeholder Involvement**

Approaches to and implications of stakeholder involvement in decision framing and making continue to be key and central themes within the work of the CRPPH. To appropriately share the knowledge developed by the Committee, and to remain up-to-date with ongoing work in this area, the Secretariat and the CRPPH Chair attended several meetings during 2005 addressing stakeholder issues.

#### **Japanese Health Physics Society Annual Meeting**

The 2005 annual meeting of the Japanese Health Physics Society (JHPS) included a topical session on stakeholder involvement. The CRPPH Chair, and the CRPPH Scientific Secretariat were invited to present the Committee’s past experience and future directions in this area. The Annual JHPS meeting took place in Rokkasho, Japan, on the 1<sup>st</sup> of July. The meeting proceedings, mostly in Japanese included the two CRPPH presentations.

### **JHPS/NEA Symposium on Stakeholder Involvement**

Following the Rokkasho JHPS meeting, a symposium, titled Stakeholder Involvement in Radiation Protection, was co-organised by the Japanese Health Physics Society and the NEA. This meeting took place in Tokyo, on 2 July, and included an overview of NEA involvement in stakeholder issues presented by Dr. Hans Riotte, a more detailed presentation of the NEA's lessons learned by Dr. Ted Lazo, and a detailed French case study on stakeholder involvement in the management of NPP effluent discharges by Mr. Jacques Lochard. Japanese experts presented papers discussing stakeholder involvement at the regulatory authority, stakeholder involvement as a tool for optimisation, a pilot research project for risk communication in Tokai Village, and a broad overview of stakeholder involvement in Japan. All presentations made at the meeting were documented in the symposium proceedings.

### **IRPA Regional Workshop: Processes and Tools for Stakeholder Engagement in Radiological Protection, Salamanca, Spain**

Reflecting the trend in modern societies toward more "inclusive" governance for the assessment and management of hazardous activities, stakeholder engagement is now recognised as a key feature of the System of Radiological Protection.

Building on the results of the series of Workshops organised by the Committee on Radiation Protection and Public Health (CRPPH) of the NEA-OECD in 1998, 2001 and 2003 on the societal aspects of radiological protection, the International Commission on Radiological Protection (ICRP) introduced stakeholder involvement in the draft version of its future recommendations as a means to improve the quality and sustainability of decisions to achieve the best levels of protection of the workers and the public under the prevailing circumstances.

In the aftermath of the IRPA 11 session on stakeholder involvement, the Spanish Society for Radiological Protection (SERP) consulted the French and the UK Societies to explore the opportunity of organising a follow-up International Workshop aiming at promoting stakeholder engagement among radiation protection professionals. The three Societies agreed to hold three workshops on this important issue, in 2005 (Spain), 2006 (France) and 2007 (UK).

The first of these meetings, Processes and Tools for Stakeholder Engagement in Radiological Protection, took place from the 16<sup>th</sup> to the 18<sup>th</sup> of November, in Salamanca, Spain. The workshop proceedings include presentations of the CRPPH EGSS work (by EGSS Chair Mr. Rick Jones), and on the evolving roles of RP (by Dr. Ted Lazo).

In view of the Committee's interest in this subject, the NEA has agreed to co-sponsor the next meeting of this series, which will take place in Montbéliard, France in late 2006, hosted by the SFRP.

### **ERICA**

The continuing interest of the CRPPH in developments concerning the radiological protection of the environment have resulted in the NEA Secretariat being named to Erica End User's Group (EUG).

The objective of ERICA is to provide an integrated approach to scientific, managerial and societal issues concerned with the environmental effects of contaminants emitting ionising radiation, with emphasis on biota and ecosystems. The final outcome of the project will be the ERICA *integrated approach to assessment and management of environmental risks from ionising radiation*, using practical tools. The project will partly build on the achievements of the FASSET project, which provided a basic framework for the assessment of environmental impact of radionuclides.

The objectives of the ERICA project will be fulfilled through development of a user-friendly assessment tool with risk characterisation methodologies coupled with communication strategies aimed at decision-making. This involves detailed consideration of gaps in scientific data, expansion of the current effects database, and experimental and theoretical consideration extrapolation issues, e.g. from effects on individuals to effects on populations. The tool will be tested and applied to a series of case studies and supported by stakeholder interaction. The development of science-based managerial guidance, including methodologies for stakeholder involvement in assessments, will be based on a number of meetings with end-users representing a range of different interests, whom have agreed to participate in ERICA. The meetings will be concerned with different scientific and managerial aspects of assessments, including the development of methodologies to derive standards.

An important aspect of the ERICA project is the stakeholder interaction through the End-User's Group (EUG). This group will be set up based on:

- the need to disseminate project results to a wide range of end-users representing different views on the subject within Member States, within Candidate Member States, and internationally;
- the need to solicit guidance from end-users as described above in resolving certain issues of vital interest and importance to the project;
- the positive experience from previous exercises involving stakeholders in this area, e.g. the FASSET External Forum held in Bath, 2002 [FASSET 2002c] and the Consensus Conference organised by the International Union of Radioecology (IUR) and Nordic Nuclear Safety Research (NKS) in Oslo 2001 [NRPA/NLH 2001]; and,
- the positive experience from other stakeholder dialogues, e.g. to guide decision-making on restoration of land for agricultural purposes in the EC FARMING Project.

## EURANOS

The continuing interest of the CRPPH in emergency management, and in maintaining coherence with other ongoing international efforts in this area, has resulted in the NEA Secretariat being named to EURANOS Advisory Committee.

The overall goal of the EURANOS project is to increase the coherence and effectiveness of nuclear and radiological emergency management in Europe including the rehabilitation of contaminated areas through the establishment of an effective working platform of emergency management institutions, RTD institutes, end-users and other stakeholders for initiating application oriented improvements of methods, procedures, guidelines and IT tools, such as the RODOS decision support system.

This description clearly emphasises that the EURANOS project is fundamentally seen as a means:

- to develop a coherent and effective “working platform” for emergency and rehabilitation preparedness and management at the European level,
- to engage key European end- users and stakeholders in this “working platform”,
- to provide operational and up-to-date tools and procedures, including the RODOS DSS and
- to demonstrate that the developed methods, procedures, guidelines and IT-tools are appropriate for operational use

## Annex 1

**List of Members of the Committee on  
Radiation Protection and Public Health (CRPPH)**

**And its Sub-Groups for the 2005 Programme of Work  
(March 2006)**

**Committee Participants by Group  
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	Mr. Stuart PROSSER	ARPNSA
	Mr. David TREDINNICK	ARPNSA
<b>AUSTRIA</b>	Mr. Johann-Klaus HOHENBERG	Federal Ministry
	Mr. Rainer SCHEFFENEGGER	Federal Ministry
<b>BELGIUM</b>	Mr. Erik COTTENS	SPRI
	Mr. Jean-Paul SAMAIN	Agence Fédérale de Contrôle
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	Ms. Dana DRABOVA	State Office for Nuclear Safety
	Ms. Karla PETROVA	State Office for Nuclear Safety
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	Mr. Tsugumasa HORITA	MEXT
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	Mr. Hirohide KOBAYASHI	JNC
	Mr. Kaoru KOHARA	MEXT
	Mr Hiroshi KUNIYOSHI	NSTC
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	Mr. José Raul ORTIZ MAGANA	CNSNS
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	Mr. Antonio FERRO DE CARVALHO	Instituto Tecnológico e Nuclear
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	Mr. Seog-Geun KWON	KINS
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	Mr. Manuel RODRIGUEZ	CSN
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	Ms Taina BACKSTROM	SSI
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<b>TURKEY</b>	Mr. Cemil KOCAR	TURKA
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	Mr. Ian ROBINSON	Health & Safety Executive
	Dr. Clive WILLIAMS	Environment Agency

**Members of the Committee on Radiation Protection and Public Health (CRPPH)**

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	Mr. Malcolm CRICK	UNSCEAR
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	Dr. Edward LAZO	NEA
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	Dr. Mike REPACHOLI	WHO
	Dr. Jack VALENTIN	ICRP
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<b>IRELAND</b>	Dr. Ann MCGARRY	RPII
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	Dr. Anne FLURY-HERARD	CEA
	Prof. Henri METIVIER	Chair EGIS
	M. Francois PAQUET	IRSN
<b>GERMANY</b>	Dr. Herwig PARETZKE	GSF
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	Prof. Kenneth MOSSMAN	Arizona State University
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	Dr. Elisabeth CARDIS	IARC
	Ms. Martine VRIJHEID	IARC

**Committee Participants By Group**  
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	Mr. Thierry SCHNEIDER	CEPN
<b>JAPAN</b>	Dr. Shin SAIGUSA	Nuclear Safety Commission
<b>UNITED STATES OF AMERICA</b>	Mr. C. Rick JONES	MSN
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<b>INTERNATIONAL ORGANISATIONS</b>	Zhanat CARR	WHO
	Louisa VINTON	UNDP

**Committee Participants By Group**  
**Members of the Expert Group on the Implications of ICRP Recommendations**  
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**Annex 2**

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