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

**NEA/CRPPH(2003)1/REV1
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Enhancing Public Health and Safety

**Contributions of the OECD/NEA Committee on Radiation Protection and Public Health
(CRPPH) 2002-2003**

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English - Or. English

**Mandate of the
Committee on Radiation Protection and Public Health (CRPPH)
(Updated: October 2000)**

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 and members of the public in all practices 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:

1. 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 and approaches and their implementation in the various practices and situations involving radiation exposures;
2. 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 the various fields of application of radiation protection, and to contribute to the development of harmonised positions in this field;
3. 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 in those areas where international consensus on radiation protection concepts and practices is required; and
4. 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.
5. 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, as well as with the competent bodies within relevant OECD Directorates and other international organisations active in the field.

Strategic Direction and Priorities of the CRPPH (2002-2005)

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, to analyse their 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 emerging issues supports policy and regulation development in Member countries, and disseminates good practice.

The most significant challenge currently facing the radiation protection community is how to better integrate radiation protection within modern concepts of and approaches to risk governance. This issue is manifest in a growing stakeholder involvement in decision-making processes addressing human health and environmental risks. In radiological protection, these trends, as well as interpretation and application difficulties with the current system of radiation protection, have led to a general review of the foundations of radiation protection. The CRPPH goal is to ensure that consensus on directions for improvement is reached among radiation protection experts from national regulatory authorities, and that this consensus is taken into account during the development of new approaches and international recommendations. This will be the main focus of the Committee's work for the coming years. The CRPPH will also actively pursue collaborative efforts to address cross-cutting areas such as stakeholder involvement and environmental protection.

All components of the CRPPH Programme of Work (POW) will be oriented to along these lines. Several of the Committee's Expert Groups have been focusing on developing various aspects of a "modern" system of radiation protection. This includes the Expert Group on the Evolution of the System of Radiation Protection (EGRP), the Expert Group on the Process of Stakeholder Involvement (EGPSI), and the Expert Group on Release Options (EGRO). The Working Party on Nuclear Emergency Matters (the INEX group) has oriented its strategy towards the longer term management of contaminated territories, for example the use of (or need for) intervention levels at various stages of cleanup and recovery. The Information System on Occupational Exposure (ISOE) will continue its work on the operational and analytical aspects of exposures at nuclear power plants, but is also addressing the operational aspects of "worker empowerment", particularly in terms of modern views of optimisation of exposures.

In addition, the CRPPH has built an increasingly collaborative relationship with the International Commission on Radiological Protection (ICRP), and has, through the above mentioned Expert Groups, been contributing its views to the Commission for use in its updating of the 1990 general recommendations (ICRP Publication 60). While the CRPPH feels that much of the current system is well presented and is operationally workable, it also feels that several key areas of Publication 60 need alternative approaches to better respond to the needs of regulators, practitioners and other stakeholders. The objective of the CRPPH is thus to develop consensus with regard to how these key areas of the ICRP general recommendations could be improved, and how stakeholder processes should be reflected in these recommendations. In developing this consensus, national examples of good practice in various areas will also be documented. To achieve this, the Expert Group on the Implications of ICRP Recommendations (EGIR) will analyse draft ICRP materials and provide practical feedback on how new ideas and approaches would affect policy, regulation and application. Using all this work as a foundation for discussion, the NEA, in collaboration with the ICRP, is holding a series of high-level policy dialogue Fora to help develop consensus on the way forward.

Work in all these areas is designed to assist CRPPH Members in addressing these issues within in their own national context. Results will be offered to the international community as the consensus of the regulators and experts of the CRPPH, with stakeholder input, for consideration and use in the development of a new, modern system of radiation protection.

Foreword

During the 58th Meeting (April 2000) of the 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 Chairman 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.

This report is the result of the efforts by the Bureau and Secretariat, and will be approved by the CRPPH at its March 2003 meeting. It provides a snapshot of the Committee's accomplishments since its last meeting (March 2002), and its planned activities for the subsequent 12 months (March 2003-March 2004).

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 of CRPPH Accomplishments and Planned Activities

The significance of CRPPH work

The accomplishments and plans of the CRPPH have had, and will increasingly have, a significant influence on radiological protection in NEA Member countries.

As measured by the regulatory and structural activities that took place following the issuing of ICRP Publication 60, it is clear that ICRP recommendations are taken seriously, and result in broad reviews of existing policy, regulation and procedures, generally followed by structural change. By becoming increasingly implicated in providing direct scientific and technical feedback and input to the ICRP as new recommendations are developed, NEA Member countries are helping to build their own consensus, and to air new approaches nationally. By also focusing on stakeholder aspects of radiation protection decision making, NEA Member countries are building an enduring, open dialogue with the ICRP and other stakeholders that will better support national decisions. Resulting ICRP text will better meet the needs of policy makers, regulators, and implementers, and the broad stakeholder dialogue process will smooth the transition to new recommendations. Timely and effective work in this area has heightened the value of input from the CRPPH.

Throughout the 1990's, the NEA work on nuclear emergency matters highlighted the importance of communication, and of actively putting data and information at the service of decision makers. The summary analysis of the experience from the INEX 2 exercises, published during 2001, spells out policy and practical level lessons and implications. The INEX 2000 exercise, which took place during 2001, further demonstrated the value of fluid and well-informed communications at both the national and international levels. Structural and procedural changes in NEA Member countries, born of experience from the INEX exercises, have significantly improved national response capabilities. The discussion and analysis of the compensation and liability aspects of post-accident management, which were an integral part of the INEX 2000 exercise, highlighted the importance of national and international level attention to practical application issues. The experience from these exercises serves as a guide for further response improvements, which are reflected in the current CRPPH programme of work in this area.

The CRPPH will continue to focus its programme of work on these two important areas, while maintaining an active programme in the area of occupational exposure experience exchange.

Summary of Accomplishments for 2002 (March 2002 - March 2003)

The NEA's Committee on Radiation Protection and Public Health (CRPPH) continued to contribute to the advancement of radiation protection philosophy and application during the period from March 2002 to March 2003. The most significant accomplishments during this period include:

- The development of a policy-level document, summarising the results of the 1st NEA/ICRP Forum, on the philosophical and regulatory basis for the protection of non-human species. This document influenced the draft ICRP general recommendations to better address the needs of policy makers, regulators and practitioners.
- The organisation of the 2nd NEA/ICRP Forum on Future Policy for Radiological Protection: A stakeholder dialogue on the implications of ICRP proposals. Based on the analyses by the CRPPH of draft ICRP recommendations, this Forum (April 2003) provides NEA member country views directly to the ICRP.
- The finalisation of a "road test" of the Committee's views (EGRP Report) on how, concretely, the system of radiological protection could be improved and simplified. These views have been adopted by the ICRP in its latest draft recommendations.
- The finalisation of the analyses of Villigen 1 and 2 case studies, extracting stakeholder involvement process aspects and their policy significance, in preparation for the 3rd Villigen Workshop. This work has crystallised issues in this area, and their implications to national and international recommendations, norms and regulations.
- Developed a path leading to the INEX 3 programme, based on the final analysis of the INEX 2 series of regional international nuclear emergency exercises, and on the analysis of the INEX 2000 exercise, to best address member countries' needs in this area.
- Continued to expand participation in the ISOE system on occupational exposure at nuclear power plants, contributing to the world-wide improvement of occupational dose management and worker protection (e.g. 407 operating plants, and 54 plants in cold-shutdown world-wide representing 72 utilities in 29 countries).

Summary of Planned Activities for 2003 (March 2003 - March 2004)

While each Group or project will focus on addressing its own mandate, each will also increasingly contribute to the current central theme of the CRPPH programme of work, the evolution of the system of radiation protection. Most significantly, the CRPPH will:

- Develop decision-maker, regulator and practitioner views regarding the possible implications of ICRP draft recommendations through the 2nd NEA/ICRP Forum.
- Develop policy-level implications, and significant process elements, of stakeholder participation in radiological protection decision making through the 3rd Villigen Workshop.
- Explore the longer-term aspects of post-accident emergency response through the development of the INEX 3 programme.
- Finalise an ISOE report on the operational aspects of optimisation at NPPs through worker empowerment and other stakeholder processes.

Moreover, the CRPPH is co-ordinating an NEA-wide collection of views regarding the evolution of the system of radiological protection, and will hold a joint session, during its annual meeting, to collect the views of other NEA Standing Technical Committees for discussion at the 2nd NEA/ICRP Forum.

A detailed listing of recent accomplishments and future plans follows, organised by project. A summary list of all accomplishments and planned actions is provided in Annex 1. A bibliography of recent CRPPH publications is available in Annex 4, and documents are available for purchase or for downloading at www.nea.fr

Enhancing Public Health and Safety

Contributions of the OECD/NEA Committee on Radiation Protection and Public Health (CRPPH)

Accomplishments 2002 Planned Activities for 2003

Table of Contents	Page
Mandate of the Committee on Radiation Protection and Public Health	2
Strategic Direction and Priorities for the CRPPH (2002 - 2005)	3
Foreword	4
Summary of Accomplishments and Planned Activities	5
1. Historical Introduction	10
2. Detailed Working Party and Expert Group Accomplishments and Plans	12
• Working Party on Nuclear Emergency Matters (INEX)	13
• Information System on Occupational Exposure (ISOE)	17
• Expert Group on the Evolution of the System of Radiation Protection (EGRP)	21
• Expert Group on the Process of Stakeholder Involvement in Radiation Protection Decision Making (EGPSI)	23
• Expert Group on the Implications of Effluent Release Options (EGRO)	25
• Expert Group on the Implications of ICRP Recommendations (EGIR)	26
• Expert Group on the Regulatory Application of Authorisation (EGRA)	28
• Expert Group on Stakeholder Involvement in the Management of an Urban Radiological Contamination (EGUC)	30
• Evolution of the System of Radiological Protection: NEA Collaboration with the ICRP	32
3. Other Work of the CRPPH	34
• SILENE Accident Dosimetry Intercomparison Exercise	34
• CRPPH Participation in the NEA's Decommissioning Activities	34

ANNEXES

1. Summary of Accomplishments for 2001-2002, and Plans for 2002-2003	36
2. List of CRPPH and CRPPH Sub-group Members	40
3. List of Working Party and Expert Group Mandates	45
• Working Party on Nuclear Emergency Matters (INEX)	45
• Information System on Occupational Exposure (ISOE)	46
• Expert Group on the Evolution of the System of Radiation Protection (EGRP)	47
• Expert Group on the Process of Stakeholder Involvement in Radiation Protection Decision Making (EGPSI)	48
• Expert Group on the Implications of Effluent Release Options (EGRO)	49
• Expert Group on the Implications of ICRP Recommendations (EGIR)	50
• Expert Group on the Regulatory Application of Authorisation (EGRA)	51
• Expert Group on Stakeholder Involvement in the Management of an Urban Radiological Contamination (EGUC)	52
4. Bibliography of Recent CRPPH Publications	53

1. Historical Introduction

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. To capitalise and maximise the benefits of activities involving radiation to society, governments take action to establish regulatory programs that promote and assure the appropriate safeguards are in place for the protection of workers, the public 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 that then allows for the development and 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 was approved by the OECD Council in October 2000. This revision was implemented to bring the Committee's mandate into harmony with the NEA's Strategic Plan, which was approved in 1999. Under this new Mandate, CRPPH is responsible for radiation protection studies and experience exchange in the light of the following goals:

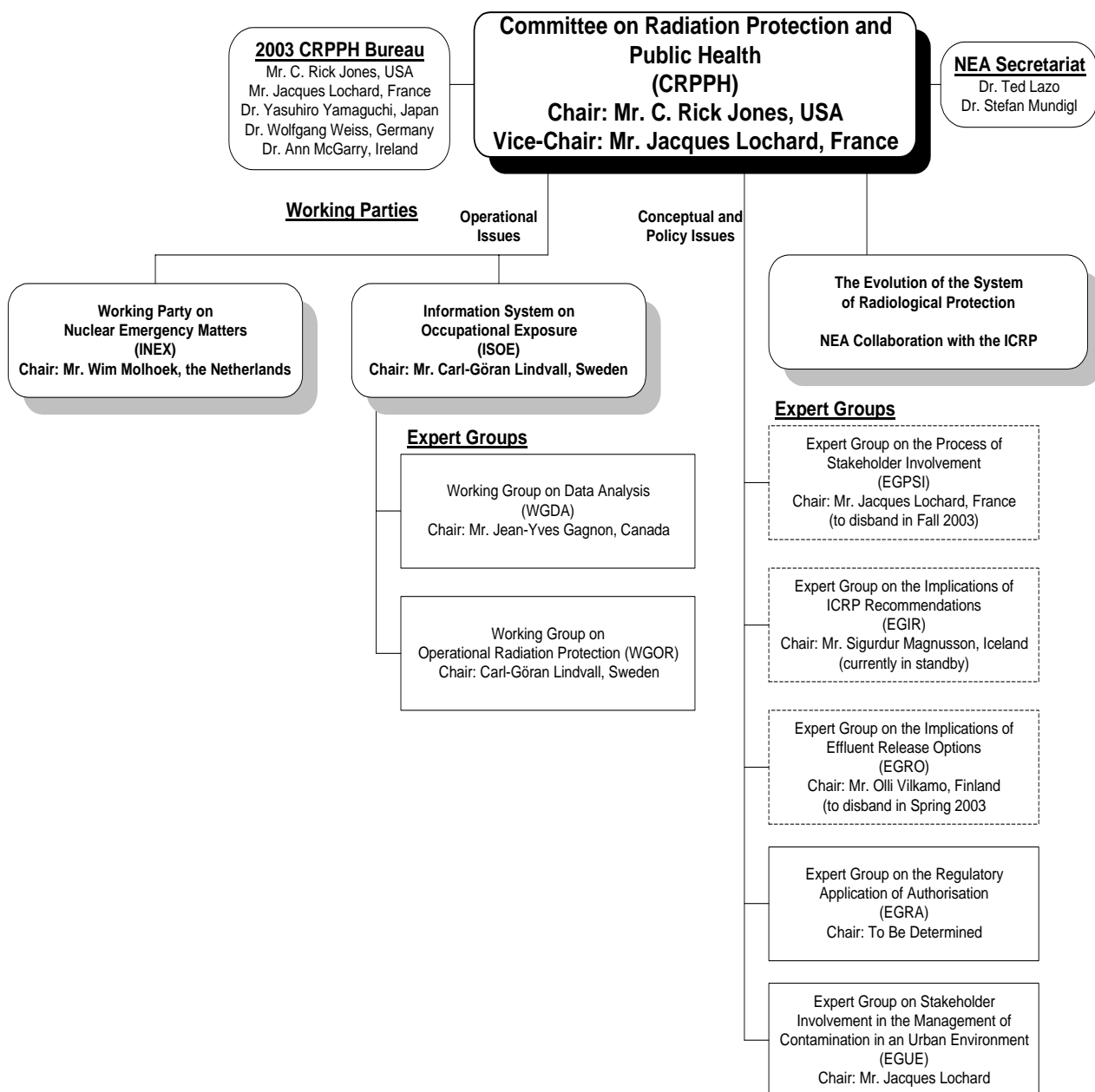
- to provide its Members with a high-level, visible forum for exchange and discussion;
- to seek common understanding of identified issues;
- to advance the "state-of-the-art" in radiation protection theory and practice;
- to advance policies that bring the system of radiation protection more in line 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) and the United Nations Office for the Co-ordination of Humanitarian Assistance (UN-OCHA) assures that efforts are complimentary. 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 these 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.

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 2002], and future plans for the period until the next CRPPH meeting [March 2003 to March 2004]. The structure of the CRPPH and its sub-groups for 2003 to 2004 is shown below.



2. Detailed Working Party and Expert Group Accomplishments in 2002 and Plans for 2003

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.

Summary of Accomplishments in 2002 and Plans for 2003

Working Party on Nuclear Emergency Matters (INEX)

*Working Party Chairman: Wim Molhoek, VROM, the Netherlands
Member, CRPPH*

Background and Strategy

The NEA has for some time been interested in nuclear emergency matters, as demonstrated by the number of publications produced in this area. Following the Chernobyl accident, the NEA developed and held, in 1993, the first International Nuclear Emergency Exercise (INEX 1) to study various international aspects of emergency communication, co-ordination and response. The success of this table-top exercise led the CRPPH to develop a more ambitious and realistic exercise to study these international aspects in more depth. Four INEX 2 regional, command-post exercises were held between 1996 and 1999, each with 30 to 35 countries, and 3 to 5 international organisations participating simultaneously in real-time. Based on experience from the INEX 2 exercise series, the INEX 2000 exercise was organised and held during 2001, and a policy lessons report has been developed, based on an exercise summary workshop, and will be published in mid 2003. Lessons from these exercises have resulted in the development of a mid-term strategy for the Working Party, and in an agreement on broad objectives and an appropriate format for the INEX 3 exercise.

For 2003-2004 the Working Party will develop detailed plans and exercise documentation for the INEX 3 exercise, and will develop plans for technical workshops to supplement national efforts to improve emergency planning, preparedness and response.

Accomplishments and Products: 2002

- **The INEX 2000 nuclear emergency exercise**

In order to validate the monitoring and data-management strategy developed based on experience from the INEX 2 exercises, and to see how well lessons from INEX 2 had been implemented, the Working Party developed the INEX 2000 exercise. Jointly sponsored by the IAEA, the EC, the WHO, the WMO, who each developed their own organisation-specific exercise objectives, 38 countries participated. In January 2002, the NEA organised an INEX 2000 Follow-up meeting to evaluate the Exercise with respect to the NEA objectives, in which representatives from 27 countries, including 7 non-NEA Member countries, participated. Based on the experience exchange during this follow-up meeting, an INEX 2000 Evaluation Report has been developed and will be published in mid 2003.

Products:

- Draft report: INEX 2000 Exercise Evaluation (publication in mid 2003)

- **Short-term countermeasures in case of a nuclear or radiological emergency**

In order better understand national approaches to short-term nuclear emergency countermeasures, and to concretely assess the level of international agreement on approaches, the Working Party prepared, together with the NEA Secretariat, a questionnaire on short-time countermeasures. The questionnaire was distributed in

April 2001, to NEA Member countries via their CRPPH representatives. As of December 2001, the NEA received completed questionnaires from twelve countries, namely Australia, Canada, the Czech Republic, Finland, Germany, Hungary, Ireland, Japan, Luxembourg, Switzerland, United Kingdom and United States. Based on the evaluation of these completed questionnaires, a draft report was prepared and updated after additional information was received from the Netherlands and Norway. As several countries still wished to provide information or update the information given, the Working Party decided to allow for comments and additional information until 31 January 2003. Thus, this report will be published in Spring 2003.

Products:

- Draft report on “Short-term countermeasures in case of a nuclear or radiological emergency” (publication in Spring 2003)
- **Survey of Member countries key interest in the field of nuclear emergency preparedness and management**

To better plan its mid-term programme of work, the Working Party launched a questionnaire to ask Member countries about their priorities in the following areas of nuclear emergency preparedness and management.

- INEX 3 – objectives, scenario, type of exercise, time-frame, follow-up.
- Key topics for workshops,
- Objectives to be played by participating countries in a Joint International Nuclear Emergency Exercise (JINEX 2) in 2005, jointly sponsored by the NEA, IAEA, EC, WHO, WMO and perhaps other international organisations.

Based on the outcome of this questionnaire, the Chairman and the Secretariat agreed to prepare the necessary draft input to the next meeting (May 2003).

Products:

- Questionnaire on Member countries key interest in the field of nuclear emergency preparedness and management (results finalised in May 2003)
- **The new generation of international nuclear emergency exercises INEX 3**

Regarding the new generation of international nuclear emergency exercises INEX 3, the Working Party expressed its specific interest in decision-making mechanisms in the medium and late phase after a nuclear or radiological accident with serious contamination. This could include various aspects of the appropriate management of a severe contamination after an accident, such as agricultural countermeasures, food restriction, socio-economic aspects, psychological damage, compensation issues, decisions on “soft/light” countermeasures, trade and travel, and harmonisation of response.

Based on the experience with the very successful INEX 1 table-top exercise, INEX 3 could be planned as a table-top exercise based on a footprint scenario, starting with an already existing non-trivial contamination which would affect neighbouring countries. The level of contamination should be such that relevant authorities would be forced to decide on medium and long term countermeasures. The exercise scenario could be applied in all countries and regions. This table-top exercise could then be held in

several regions or countries over a time period of about four to five months followed by a six month evaluation period. Participating countries could chose one or more predefined objectives to be played during the exercise. A workshop would be held to analyse the lessons learned and share experience.

The Working Party will continue to co-ordinate with the Nuclear Law Committee to include compensation and liability aspects in this exercise programme. Depending on the objective, other international organisations might wish to participate, e. g. EC and FAO when addressing food restrictions. Any new INEX 3 exercise will be co-ordinated with other interested international organisations through the Interagency Committee on the Response to Nuclear Accidents (IACRNA) and its Working Party on Exercises.

Products:

- Objectives and format of INEX 3 exercise (proposal in May 2003)

Activities and Planned Products: 2003

1. Analyse the results of the INEX 2000 exercise

The Working Party will finalise the report INEX 2000 Exercise Evaluation (mid 2003) in order to capture and summarise the exercise experience and lessons.

Products:

- Final Report on INEX 2000 Exercise Evaluation (mid-2003)

2. Short-term countermeasures in case of a nuclear or radiological emergency

In support of national analyses and updates of response measures, the Working Party will finalise the report on “Short-term countermeasures in case of a nuclear or radiological emergency”.

Products:

- Final Report on Short-term countermeasures in case of a nuclear or radiological emergency (Spring 2003)

3. INEX 3 Exercise proposal

To best tailor the next INEX exercise to address member country needs, based on the preparatory work performed within the Working Party, the group will prepare a detailed INEX 3 Exercise proposal, including objectives, scenario, type of exercise, time-frame, follow-up.

Products

- Detailed INEX 3 Exercise proposal– objectives, scenario, type of exercise, time-frame, follow-up (May 2003)

4. Survey of Member countries' key interests in the field of nuclear emergency preparedness and management

To best develop its short to mid-term focus, the Working Party will evaluate the questionnaire on Member countries key interest in the field of nuclear emergency preparedness and management. The results will be used to revise the Working Party's Terms of Reference and to develop a Strategy.

Products:

- Summary of Member countries' key interest in the field of nuclear emergency preparedness and management (May 2003)

5. Working Party modified Strategy and Terms of Reference

With the conclusion of the INEX 2000 exercise, the Working Party turned its primary focus to its future work. In order to position itself to most usefully address NEA Member country needs, and keeping in mind the NEA's collaborative role in the organisation of future international nuclear emergency exercises, the Working Party will develop a strategic document defining its role and strategic objectives. In addition, the Terms of Reference will be revised.

Products:

- Strategy Document: Strategy and modified Terms of Reference for the NEA Working Party on Nuclear Emergency Matters (end 2003)

6. Short-term Countermeasures following a Dirty Bomb

Based on a request by the CRPPH at its March 2003 meeting, the Working Party was asked to study the area of short-term countermeasures following a "dirty bomb". Bearing in mind work by other international organisations (IAEA, EC) in this area, the Working Party will assess whether there is additional useful information that it could develop and add to this area to assist NEA member countries.

Summary of Accomplishments in 2002 and Plans for 2003

Information System on Occupational Exposure (ISOE)

ISOE Steering Group Chairman: Mr. Carl-Göran Lindvall, Barsebäck NPP, Sweden

Background and Strategy

In response to pressures from deregulation and from the ageing of the fleet of nuclear power plants, radiation protection personnel have found that occupational exposures will be reduced by properly planning, preparing, implementing, and reviewing jobs, while applying work management techniques such that the exposures become “as low as reasonably achievable”(ALARA). To facilitate this global approach to work through the exchange of techniques and experiences in occupational exposure reduction, the Nuclear Energy Agency (NEA) of the Organisation for Economic Co-operation and Development (OECD) launched the Information System on Occupational Exposure (ISOE) on 1 January 1992 after a two-year pilot programme. Participation in ISOE includes representatives from both utilities (public and private) and from national regulatory authorities. Since 1993, the International Atomic Energy Agency (IAEA) co-sponsors the ISOE Programme, thus allowing the participation of utilities and authorities from non-OECD/NEA member countries. The ISOE Programme includes a series of occupational exposure databases, and a network of utility and authority radiation protection experts for the exchange of experience, information and lessons. The ISOE Programme supplies data to the European Commission and to UNSCEAR.

For the 2003 to 2004 period, the ISOE Programme will concentrate on the dissemination of good practice and experience in the area of occupational exposure reduction at nuclear power plants, using the newly issued database input, analysis and exchange software. The group will also specifically address the issue of worker empowerment in terms of modern views of exposure optimisation.

Accomplishments and Products: 2002

- **The ISOE Programme**

As of the end of 2002, the ISOE Programme included occupational exposure data from a total of 407 operating commercial nuclear reactors, 93% of the World's 438 operating commercial nuclear reactors. In addition, 54 commercial nuclear reactors in cold-shutdown or some stage of decommissioning are included in the ISOE database. The reactors in the ISOE databases represent 72 utilities from 29 countries. Regulatory authorities from 25 countries participate in the ISOE Programme.

Products:

- Updated ISOE databases, distributed to all ISOE Participants (November 2002)

- **ISOE Analyses and Databases**

One of the most important aspects of the ISOE Programme is data analysis, such as the tracking of annual occupational exposure trends. Using the ISOE database, which contains annual occupational exposure data supplied by all Participating Utilities, various exposure trends can be displayed by country, by reactor type, or by other criteria such as sister-unit grouping. The results of these data analyses are published in the ISOE Annual Reports, the latest of which shows that

occupational exposures decreased by 50% between 1991 and 2001. A summary report demonstrating the value of the first 10 years of the ISOE programme was developed and published in 2002. In addition, the ISOE Technical Centres performed various data analyses, data research and experience exchange that were published as ISOE Information Sheets.

The ISOE Software package for data input, data handling, experience exchange and data analysis was finalised, quality approved, and translated into various languages, e.g. Japanese, Korean, Russian. A User's Manual for the ISOE Software was prepared and distributed with the software for data collection and data analysis. The ISOE Working Group on Software Development was disbanded.

Products:

- Occupational Exposures at Nuclear Power Plants: Eleventh Annual Report of the ISOE Programme, 2001, OECD/NEA, 2002
- Finalised ISOE software package, available in various languages (November 2002)
- Users' Manual for the ISOE Software (in English) (January 2003)
- ISOE – Information System on Occupational Exposure: 10 Years of Experience, OECD/NEA, 2002

- **ISOE ALARA Symposia**

In April 2002, the third ISOE European Workshop on Occupational Exposure Management at Nuclear Power Plants took place in Portoroz, Slovenia. In addition, the International 2003 ISOE ALARA Symposium was held in Orlando, Florida, United States, 12 – 15 January 2003. The common objective of ISOE workshops is to communicate experience in ALARA implementation and occupational exposure issues, and to share lessons learned. The international and broad participation in these workshops shows the interest in ALARA and occupational exposure issues.

Products:

- Proceedings, third ISOE European Workshop on Occupational Exposure Management at Nuclear Power Plants, Portoroz, Slovenia, that collects and communicates best practices and lessons learned in the management and optimisation of occupational exposures (on the web in May 2002, published in Spring 2003)

- **ISOE Working Group on Operational Radiation Protection (WGOR)**

Initiation of an ISOE Working Group on Operational Radiation Protection (WGOR) to interact with the International Commission on Radiological Protection (ICRP) in order to provide the occupational radiation protection specialists' views on the development of new ICRP recommendations.

Products:

- Terms of Reference and Work Plan for the Group (November 2002)
- First meeting was held in November 2002

Activities and Planned Products: 2003

1. General Promotion of the ISOE System

Write a letter to top-level management: Information on ISOE and the importance of a practicable experience exchange system.

Products:

- Letter to top-level management (June 2003)

2. Using ISOE databases

The Technical Centres and the Secretariat will collect data and perform data analyses to facilitate the sharing of benchmarking information and good practices.

Products:

- Occupational Exposures at Nuclear Power Plants: Twelfth Annual Report of the ISOE Programme, 2002 (October 2003)
- Updated ISOE database, including ISOE 1 data, ISOE 2 data, and ISOE 3 reports (continuous)

3. Further promote the use of the ISOE system and enhance its visibility

Further promotion of the use of the ISOE System through the organisation of national training courses on the use of the ISOE system, especially with a view to use the ISOE 3 reporting system. In addition, the preparation of ISOE 3 reports will be promoted through the commitment of National co-ordinators and the Technical Centres to organise the preparation and inclusion of ISOE 3 reports into the system.

Products:

- National training courses on the use of the ISOE system (on request)

4. Prepare the ISOE ALARA Symposium in France, Spring 2004.

The next annual International ISOE ALARA Symposium will be held in the European region, hosted by France in Lyon, 24 - 26 March 2004.

Products:

- Symposium proceedings (on the web in May 2004, published end 2004)

5. ISOE Working Group on Operational Radiation Protection

Finalise and publish the results from the ISOE Working Group on Operational Radiation Protection (WGOR). Forward the key findings to the International Commission on Radiological Protection (ICRP).

Products:

- Report on the Operational radiation protection views on the ICRP draft recommendations (mid 2004)

6. ISOE Terms and Conditions Evaluation

In anticipation of renewing its Terms and Conditions, the ISOE Programme will perform an overall evaluation of its objectives, Terms and Conditions and structure to propose to its Steering Group any suggested modifications to make the programme more effective and efficient.

Summary of Accomplishments in 2002 and Plans for 2003

Expert Group on the Evolution of the System of Radiation Protection (EGRP)

*Expert Group Chairman: Dr. Joe McHugh, Environment Agency, United Kingdom
CRPPH Member*

Background and Strategy

Since the publication of the last recommendations of the International Commission on Radiological Protection (ICRP Publication 60, 1990) many areas have been identified that are somewhat unclear, or that are seemingly incoherent. While the CRPPH has, in general, found the ICRP system to be robust, the Committee has continued to focus its attention on those aspects of the system that it judges to need further refinement. Recognising the need for modernisation, Professor Roger Clarke, the Chair of the ICRP, has published several papers in the open literature (1999, 2001) suggesting an evolution that could be followed for the development of the next set of ICRP recommendations, due in the 2005 timeframe, and asking for comments. The CRPPH has been actively involved in developing its own consensus thoughts on how the system of radiation protection could be made more responsive to decision makers, regulators and practitioners, and has provided these directly to the ICRP and the international community for consideration. The Working Party on Controllable Dose and the Use of Collective Dose (WPCD) published the first reflections of the CRPPH on this subject in mid 2000. To further refine these thoughts, the CRPPH created the Expert Group on the Evolution of the System of Radiation Protection (EGRP) at its March 2000 annual meeting, and charged the Group with the development of some practical suggestions that could improve the clarity and coherence of the system of radiological protection.

During 2002 the EGRP published its reflection document, and will finalise its work with the completion of a “road-test” of its key ideas, performed by consultants, to “validate” that its suggestions would result in practical improvements to the system.

Accomplishments and Products: 2002

- Views from the CRPPH Expert Group on the Evolution of the System of Radiological Protection

The EGRP produced and submitted to the CRPPH for comment a document recommending several specific areas where the system of radiological protection, as described in Publication 60 of the International Commission on Radiological Protection (ICRP), could be improved to better meet modern governmental and social needs. This document, representing the views of the Expert Group, was published and was provided directly to the ICRP, but also to the international radiation protection community for consideration in the development and application of international and national recommendations and regulations.

Products:

- The Way Forward in Radiological Protection, An Expert Group Report, OECD/NEA, 2002

- **Road Testing the EGRP Contribution**

Based on the above mentioned document, the EGRP has identified two key areas, source and exposure characterisation, and the process of Authorisation, that have been “road tested” using a series of case studies to show whether these new approaches would actually improve the system of radiological protection. Consultants to the NEA have performed these studies, which will be presented to the CRPPH at its 61st meeting in March 2003, and will be published as the consultant’s views.

Products:

- A New Approach to Authorisation: A Road Test of the Ideas of the CRPPH Expert Group on the Evolution of the System of Radiological Protection, prepared by R.V. Osborne and F.J. Turvey, OECD/NEA, 2003

- **Collect Asian Regional Views**

In order to discuss the views of the CRPPH in a forum beyond the CRPPH community, a workshop was organised in Japan to discuss the evolution of the system of radiological protection, as well as the proposed improvements presented in “The Way Forward” and its “road test” case studies.

Products:

- Proceedings of the Asian Regional Conference on the Evolution of the System of Radiological Protection, Tokyo, 24 - 25 October 2002, OECD/NEA 2003
- Asian Views on the Evolution of the System of Radiological Protection, Summary Report of the Issues, OECD/NEA, 2003

Activities and Planned Products: 2003

With the publication of its final report and its road-test case studies, and with the publication of the proceedings and the policy-level summary of the Asian Regional Conference, the EGRP completed its mandate and was disbanded during the 61st meeting of the CRPPH, March 2003.

Summary of Accomplishments in 2002 and Plans for 2003

Expert Group on the Process of Stakeholder Involvement in Radiation Protection Decision Making (EGPSI)

*Expert Group Chairman: Mr. Jacques Lochard, CEPN, France
CRPPH Vice-chair*

Background and Strategy

In its 1994 Collective Opinion, the CRPPH identified the societal aspects of radiation protection, focusing at that time on post-accidental situations, as an important area to monitor. The growing area of comparative risk assessment and management, studying various risks to optimise resource allocation, was also identified. In 1996, the CRPPH created the Working Group on Risk Management (WGRM), and the Working Group on Societal Aspects of Radiation Protection (WGSA) to investigate these important areas. The WGRM completed its work in 1998, but part of that group continued investigating the area independently, reporting its results to the CRPPH in 1999. The WGSA organised the 1st Villigen Workshop, *Societal Aspects of Decision Making in Complex Radiological Situations*, in January 1998. As a follow-up to these two actions, the CRPPH created the Working Group on Stakeholder Involvement in 1999, which organised and held the 2nd Villigen Workshop, *Better Integration of Radiation Protection in Modern Society*, in January 2001. A policy-level summary analysis, *Policy Issues in Radiological Protection Decision Making*, was also published based on the Workshop's results. To carry this work forward, the CRPPH identified stakeholder involvement process aspects as key areas, and created the Expert Group on the Process of Stakeholder Involvement (EGPSI) to address these issues.

For the 2002-2003 period, the EGPSI will analyse case studies, mostly based on the studies presented in the first two Villigen workshops, to extract common process elements that could be used in support of the national needs of CRPPH Members. Stakeholder aspects also form an essential element in the evolution of the system of radiological protection, thus the work of the EGPSI will also serve as input to the work of the EGRP, and will contribute to the CRPPH input to the ICRP.

Accomplishments and Products: 2002

- **Analyses of Case studies to identify commonalities in stakeholder involvement processes**

The case studies presented during the 1st and 2nd Villigen Workshops represent a wealth of detailed information that can be studied to learn more about the procedural aspects of how stakeholders are involved in the decision making process, and what are the keys to successful involvement. Based on a detailed terms of reference, the EGPSI has supervised the development of four analyses of regional case studies to address these details. Preliminary reports have been completed, and will be finalised in early 2003. These case study analyses will serve as an important basis for discussions at the third Villigen workshop, *Societal Decisions Involving Radiation: Exploring the Implications of Stakeholder Participation*.

Products:

- Presentation of preliminary case study analyses during the Asian Regional Conference on the Evolution of the System of Radiological Protection, Tokyo, 24 - 25 October 2002 (proceedings to be published mid 2003)

- **Organisation of the 3rd Villigen Workshop**

Beginning with the consultants' work on case study analyses, and based on further discussions within the EGPSI of the latest thinking and experience in stakeholder participation, the Expert Group has developed the main lines of the 3rd Villigen Workshop. The first announcement for the workshop has been distributed widely through the NEA family. With the agreement of the Swiss Federal Nuclear Safety Inspectorate (HSK), the Workshop date has been fixed for the 21st to the 23rd of October 2003, in Villigen, Switzerland.

Products:

- First Announcement of the 3rd Villigen Workshop (March 2003)

Activities and Planned Products: 2003

1. Finalise the regional case study analyses

The regional analyses of stakeholder involvement processes will be completed, following direction from the Expert Group. These will be presented as input for the 3rd Villigen workshop. In addition, a collective analysis of the three regional studies will be carried out, and policy-relevant aspects will be documented.

Products:

- Case Studies completed and documented.
- Summary document addressing the policy-relevant aspects of all four case studies will be prepared (September 2003)

2. Hold the 3rd Villigen Workshop (21 - 23 October 2003).

The Swiss Federal Nuclear Safety Inspectorate (HSK) will host the 3rd Villigen workshop. The Expert Group will work with the Swiss authorities and Members of the CRPPH to finalise the Workshop programme. The results of this workshop will be submitted for presentation during the IRPA-11 Congress in Madrid, in May 2004.

With the completion of the publication of the Proceedings and policy-level analysis from the 3rd Villigen Workshop, and the submission to IRPA-11, the Expert Group will have completed its mandate and will disband.

Products:

- Workshop proceedings and analysis of policy-level implications (early 2004).
- Development of a presentation for submission to the IRPA-11 Congress

Summary of Accomplishments in 2002 and Plans for 2003

**Expert Group on the Implications of Effluent Release Options
(EGRO)**

*Expert Group Chairman: Mr. Olli Vilkkamo, STUK, Finland
Member, CRPPH*

Background and Strategy

Radioactive effluent releases from nuclear installations, in normal operation, have been reduced in recent years, but are still subject to discussions. The demand for further reductions is generally driven by societal concerns about the protection of the environment. Regarding the optimisation of effluent releases, there are several different approaches, such as the concept of the “Best Available Technology (BAT)”, or the ALARA approach that is well known in radiation protection. The OSPAR Commission, a political body concerned with the pollution of the marine environment, introduced the *OSPAR Strategy with Regard to Radioactive Substances* (Sintra, July 1998), which calls for a reduction of radioactive emissions to a level that would result in concentrations of artificial radionuclides in the environment that are “close to zero”. In order to assist experts and decision makers to fully understand the technical implications and feasibility of the various effluent release options being discussed, the CRPPH agreed to launch an Expert Group on this subject. The results of this Group’s work will serve as decisional background information for CRPPH Members and other experts faced with such choices, as well as input to the CRPPH views on the evolution of the system of radiation protection.

Accomplishments and Products: 2002

- **Develop Draft Report**

The Expert Group held two more meetings to finalise the draft report on “The Implications of Effluent Release Options”, which includes relevant information on national and international policies, and factual information on various effluent release options. The report provides background information to allow for informed discussions of technical and policy level implications.

Products:

- Final draft report “The Implications of Effluent Release Options”

Activities and Planned Products: 2003

1. **Finalise and publish report**

The Expert Group will finalise its report, “The Implications of Effluent Release Options”, based on comments from the CRPPH during its March 2003 meeting, after which the Group will have completed its mandate, and will disband.

Products:

- Report: Implications of Effluent Release Options (to be published in mid 2003).

Summary of Accomplishments in 2002 and Plans for 2003
**Expert Group on the Implications of ICRP Recommendations
(EGIR)**

Expert Group Chairman: Mr. Sigurdur Magnusson, CRPPH Member

Background and Strategy

Since 1990 when it issued its most recent general recommendations for a system of radiological protection its Publication 60, the International Commission on Radiological Protection (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, Stakeholder Involvement, Evolution of Radiation Protection, the Processes of Stakeholder Involvement, Implications of ICRP Recommendations) 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. During 2002, the ICRP developed two significant draft recommendations, on a framework for the protection of non-human species, and on the Commission's general recommendations, which it sent to the NEA for comment as part of the active NEA/ICRP collaboration.

The analysis of these drafts by the CRPPH is focusing on the possible regulatory and applicational implications that would arise should ICRP draft recommendations be implemented. This work will inform policy makers of the current status of ICRP thinking, and will help assure that final ICRP recommendations in this area will best serve the needs of national and international radiation protection policy makers, regulators and implementers.

To perform its analytical work, the draft recommendations have been widely distributed within the NEA family, soliciting comments with regard to their possible national implications. The EGIR is acting on behalf of the CRPPH and the NEA to develop and consolidate views. The RWMC, which has nominated members to the EGIR, has also formed an analytical group to focus on waste management aspects of the two draft documents. The EGIR's work has resulted in a summary report of the Group's thoughts, which has been used as the basis of debate during the 61st CRPPH meeting (March 2003), including invitees from other NEA Standing Technical Committees. The results of the discussion will be used as the basis for a presentation during the 2nd NEA/ICRP Forum, and will be submitted to the ICRP for consideration when finalising its recommendations.

Accomplishments and Products: 2002

- **Assessment of the implications of the draft ICRP recommendations**
Based on the draft recommendations received from the ICRP, addressing the Commission's general recommendations and its framework recommendations for the protection of non-human species, the

EGIR has performed an assessment of the implications the approaches and ideas recommended in these documents would have on national radiological protection programmes. This analysis includes radiation protection and radioactive waste management views.

Products:

- **Key Implications of Draft ICRP Recommendations: General Recommendations, and Recommendations for the Protection of Non-human Species from Ionising Radiation, OECD/NEA, 2003** (published in March 2003)

Activities and Planned Products: 2003

- **Publish report on the implications of the draft ICRP recommendations**
Based on discussions at the March 2003 meeting of the CRPPH, and at the 2nd NEA/ICRP Forum in April 2003, the Expert Group will finalise and publish its report, which was provisionally approved by the CRPPH (March 2003) subject to final approval by the CRPPH Bureau.

With the finalisation and publication of its report the Expert Group will have completed its mandate.

Products:

- **Final Report: Possible Implications of Draft ICRP Recommendations**
- **Standby for developing comments on future ICRP draft recommendations**
The EGIR will, following the completion of these tasks, remain in a standby state in order to be prepared to review any new draft ICRP recommendations that might be sent to the NEA for review and comment. The Group's Mandate will be appropriately adjusted, and approved by the CRPPH Bureau.

Summary of Plans for 2003

Expert Group on the Regulatory Application of Authorisation (EGRA)

Expert Group Chairman: To Be Determined

Background and Strategy

During the past several years, the CRPPH has been working to contribute its ideas and needs to the international dialogue regarding the development of new ICRP general recommendations. This has led to the publication of; “The Way Forward in Radiological Protection, An Expert Group Report”.

A key concept that was developed in The Way Forward is that of Authorisation. To test whether the ideas and concepts developed in The Way Forward would, if implemented, result in an improved system of radiological protection, the CRPPH Expert Group commissioned two consultants to “road test” these ideas. The results of this road test have been published in a separate report; A New Approach to Authorisation: A Road Test of the Ideas of the CRPPH Expert Group on the Evolution of the System of Radiological Protection”.

The concept of Authorisation thus discussed by the NEA Expert Group has been transmitted to the ICRP, and to the broader radiation protection community, for consideration. As a result, Authorisation has been taken up by the ICRP in its latest draft document that provides a conceptual framework for the development of more detailed recommendations. The ICRP suggests that this concept is a regulatory tool that should be used when deciding whether to release radioactive materials from regulatory control, either totally or partially.

Given this presentation by the ICRP of Authorisation, a more detailed discussion of the concept of Authorisation would be useful. And given that the CRPPH has been in the forefront of developing this approach, it would be efficient and appropriate for the Committee to continue this work. This Group was thus created by the CRPPH during its March 2003 meeting.

Activities and Planned Products: 2003

Within the context of the current CRPPH Programme of Work, the EGRA will study the concept of Authorisation in a practical context, investigating the scope of and approach to Authorisation, in order to assist regulators and practitioners in understanding how this concept could be implemented. The work of the Group will be provided to the international radiological protection community, and to the ICRP, for consideration. It is hoped that this work will help assure that the Commission’s recommendations, and their regulatory and practical application, remain in harmony. The Group will also submit a paper for presentation at the IRPA-11 Congress.

Using the relevant CRPPH publications, and the draft ICRP text as a starting point, the Expert Group will develop its views on how the concept of Authorisation could be more fully defined, understood and implemented.

The Expert Group will present its draft results to the CRPPH at its March 2004 meeting. The CRPPH will discuss this topic, and will instruct the Expert Group how to proceed to finalise its report, which is expected to be approved by the CRPPH no later than its 2005 meeting.

In addition, the Expert Group will, on behalf of the CRPPH, lead the effort to develop a programme for the 2nd Asian Regional Conference on the Evolution of the System of Radiological Protection.

1. Final Expert Group Terms of Reference: September 2003

Based on discussions during the March 2003 CRPPH meeting, the Expert Group will discuss its draft terms of reference, and submit a final draft to the CRPPH Bureau for approval.

Products:

- Final Terms of Reference

2. Report to CRPPH for Discussion: March 2004

Based on its discussions, the Expert Group will prepare a draft report for presentation to the CRPPH at its March 2004 meeting.

Products:

- Draft Expert Group Report
- Proposed paper for presentation at the IRPA-11 Congress, May 2004

3. Programme for the 2nd Asian Regional Conference (late 2003)

The Expert Group will develop, in collaboration with the Asian Members of the CRPPH and on conclusions from the 1st Asian Regional Conference, a programme for the 2nd Asian Regional Conference to be held in late 2004. The Group will present this to the CRPPH at its March 2004 meeting.

Products:

- Draft Conference Programme

Summary of Plans for 2003

Expert Group on Stakeholder Involvement in the Management of an Urban Radiological Contamination (EGUC)

Expert Group Chairman: Mr. Jacques Lochard, France

Background and Strategy

Through the development of knowledge and exchange of experience made possible by the planning and holding of the Villigen Workshops, a more profound understanding of the national and international implications of stakeholder participation in radiological protection decision making has been gained. The extraction, from specific case studies, of experience and lessons that transcend case, geographic and, to a certain extent, cultural bounds has provided a philosophical foundation for better understanding of how stakeholder involvement can affect the bases, structures and processes of decision-making.

The knowledge developed by the CRPPH in this area has been most recently documented in the following reports:

- Policy Issues in Radiological Protection Decision Making: Summary of the 2nd Villigen (Switzerland) Workshop, January 2001, OECD/NEA 2001
- Better Integration of Radiation Protection in Modern Society: Workshop Proceedings, Villigen Switzerland, 23 - 25 January 2001, OECD/NEA, 2001

Similar documents will be published as a result of the 3rd Villigen Workshop, which will take place from the 21st to the 23rd of October 2003.

To increase understanding of the complexities in this area, the particular situation of urban contamination provides a framework that is of great interest in today's world. This could serve as a vehicle for better understanding the magnitude and implications of the practical application of the philosophical knowledge that the CRPPH has developed so far. This Group was thus created by the CRPPH during its March 2003 meeting.

Activities and Planned Products: 2003

Within the context of the current CRPPH Programme of Work, the EGUC will evaluate the present experience with stakeholder participation in the long-term management of contamination in an urban environment. Feedback from this experience to the policy and structural aspects of long-term management issues will also be evaluated. The work of the Group will be provided to the international radiological protection community for consideration of further developments.

Using the relevant CRPPH publications as a starting point, the Expert Group will develop its views on how the key aspects of stakeholder participation in the management of long-term contamination in an urban environment could be considered. The work will include a literature search of relevant experience, including the experience at Goiânia, in the Chernobyl contaminated territories and in European

cities affected by the Chernobyl accident, and other relevant experience in the Civil Protection area. The Group will also catalogue the activities developed by international organisations in this area (e.g., IAEA, EC, etc...). Based on the literature search and the catalogue of activities the Expert Group will attempt to identify areas where the CRPPH could meaningfully contribute to this area, and will put forward a proposal to the CRPPH at its March 2004 meeting.

1. Group Terms of Reference

The Expert Group will discuss its draft terms of reference, taking into account the discussion at the March 2003 CRPPH meeting, and submit a final draft to the CRPPH Bureau for approval.

Products:

- Final Terms of Reference

2. Literature Search of Relevant Situations

The Expert Group will, with the assistance of the Secretariat, perform a literature search of all relevant situations that could provide insight into the role of stakeholder involvement in the management of radiological contamination in an urban environment.

Products:

- Literature Search Summary

3. Catalogue of Other Relevant Activities in this Area

The Expert Group, with the assistance of the Secretariat, will catalogue past and ongoing activities by other international organisations (IAEA, EC, UN-OCHA, etc.) related to stakeholder involvement in the management of radiological contamination to develop a list of relevant activities such that the Group can best identify where it can perform valuable work.

Products:

- Catalogue of Activities

4. Proposal for Possible Further Work by the CRPPH in this Area

Based on the literature search, and the catalogue of activities, the Expert Group will develop a more detailed proposal for the CRPPH of where, in its view, the CRPPH could effectively contribute to increasing the knowledge and experience with stakeholder involvement in the management of radiological contamination in an urban environment.

Products:

- Proposal for possible further work to the CRPPH for consideration at its March 2004 meeting.

Summary of Accomplishments in 2002 and Plans for 2003

Evolution of the System of Radiological Protection NEA Collaboration with the ICRP

Background and Strategy

As part of the CRPPH collaboration with the ICRP, the CRPPH held the 1st NEA/ICRP Forum to discuss *the Radiological Protection of the Environment: The Path Forward to a New Policy?* This meeting took place in Taormina, Italy, in February 2002. The meeting included presentations from high-level representatives of regulatory bodies, industry, science, humanities, politics, the media, and intergovernmental and non-governmental organisations. Panel discussions and presentations were used to address the key questions to be answered on the way to a new policy. This Forum helped the ICRP to better formulate its draft framework recommendation for the protection of non-human species, and NEA member countries to actively participate in the recommendation development process, and to better understand the approach and reasoning of the ICRP.

To continue this collaboration, the NEA and the ICRP organised the 2nd NEA/ICRP Forum, *The Future Policy for Radiological Protection: A stakeholder dialogue on the implications of the ICRP proposals*. This Forum, 2nd to the 4th of April 2003, will focus on the possible implications of the most recent ICRP draft recommendations on the radiological protection of non-human species, and on the Commission's more general recommendations for a comprehensive system of radiological protection. The views of various stakeholders, including the views developed by the EGIR for the NEA, will be discussed. The results of this dialogue meeting will be used by the ICRP in formulating its new recommendations to better address stakeholder needs and views, and by NEA member countries to better understand the details of the ICRP's intentions.

Accomplishments and Products: 2002

- **The first NEA Forum on Radiological Protection of the Environment**

The NEA Secretariat organised the first forum, "Radiological Protection of the Environment, The Path Forward to a New Policy?", in Taormina, Sicily, Italy, 12 - 14 February 2002, hosted by the Italian "Agenzia Nazionale per la Protezione dell' Ambiente" (ANPA).

Products:

- Radiological Protection of the Environment: The Path Forward to a New Policy? - Summary of the NEA Forum on Radiological Protection of the Environment, OECD/NEA, 2003
- Radiological Protection of the Environment: The Path Forward to a New Policy? - Proceedings of the NEA Forum on Radiological Protection of the Environment, OECD/NEA, 2003

- **Prepare the 2nd NEA/ICRP Forum: Implications of ICRP Recommendations**

A Programme Committee, including the CRPPH Bureau, the ICRP Chair and Vice-Chair, the EGIR Chair, and the CSN Commission, has developed a detailed programme and Forum announcement to inform speakers and participants to this invitation-only meeting of its background, intent, and expected results.

Products:

- Announcement for the 2nd NEA/ICRP Forum: *The Future Policy for Radiological Protection: A stakeholder dialogue on the implications of the ICRP proposals*

Activities and Planned Products: 2003

1. Hold the 2nd NEA/ICRP Forum, *The Future Policy for Radiological Protection: A stakeholder dialogue on the implications of the ICRP proposals*

The Forum will be hosted by the Spanish Consejo de Seguridad Nuclear (CSN), and will take place from the 2nd to the 4th of April 2003 in Lanzarote, the Canary Islands.

2. Prepare and publish the Forum summary and proceedings

The results of the 2nd Forum will be gathered and published. In addition, a brief document summarising the policy-level results of the Forum will be developed and sent to the CRPPH for review, approval and publication.

Products:

- Summary of the key, policy-level issues and implications raised at the forum (published in late 2003)
- Proceedings of the Forum (published in late 2003)

Summary of Accomplishments in 2002 and Plans for 2003

Other Work of the CRPPH

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:

SILENE

Since the criticality accident at Tokai Mura in Japan, there has been heightened interest in accident dosimetry, particularly for mixed gamma/neutron fields. The CRPPH agreed that it would be extremely useful to co-sponsor an accident dosimetry intercomparison that had been proposed by the French, using their SILENE reactor. The intercomparison irradiations took place from the 9th to the 21st of June 2002. A total of 40 laboratories from 25 countries participated. The results of the intercomparison will be used by these laboratories to improve their accident dosimetry approaches. Irradiation scenarios included mixed gamma/neutron and pure gamma fields, and both biological and physical dosimetry were tested. The NEA Secretariat is supporting the organisation of this intercomparison, and its results will be published and distributed to the CRPPH upon completion (late 2003).

CRPPH Participation in the NEA's Decommissioning Activities

Decommissioning is an issue of rising importance in many of the NEA's Member countries, and is being addressed in a broad sense within the NEA. The Chairmen of the NEA's seven standing technical committees endorsed, in May 2000, and an updated version in May 2002, a Secretariat paper describing 6 significant issues in decommissioning, and proposing cooperative mechanisms to address the issues in a cross-cutting fashion. These issues are:

- Decommissioning Policy and Strategies
- Waste Management and Material Reuse Considerations
- Authorised Release of Sites and Facilities
- Securing Long-Term Funding and Responsibility
- Framework for Safety Regulation of Decommissioning
- Research and Development Needs in Decommissioning

The CRPPH and the NEA's other standing technical committees were requested by the NEA Director General to address these issues in their future programme of work. The CRPPH agreed at its March 2002 meeting that its contribution to this work would be through the discussion of authorisation, clearance and exemption taking place within the Expert Group on the Evolution of the System of Radiation Protection (EGRP). CRPPH Members also nominated experts to participate in specific tasks being managed by other NEA Standing Technical Committees. Progress on the work of these other groups will be reported to the CRPPH during annual Committee meetings, and further action will be defined as necessary.

CRPPH Participation in the Development of the NEA's Nuclear Reference Book - Nuclear Energy Today

The Nuclear Development Committee initiated a project to develop a comprehensive nuclear reference book aimed at providing energy policy makers an authoritative and factual introduction to nuclear energy and its relevant issues. This book is also intended to be of interest and use to journalists, academicians and members of the public. The radiation protection chapter of this book was drafted by the Secretariat, with guidance and review by the CRPPH. This timely work should assist in several ongoing national debates and dialogues on energy choices for the future.

Annex 1

**Summary of CRPPH Accomplishments for 2002
and Planned Activities for 2003**

Accomplishments for 2002 (March 2002 to March 2003)

The Working Party on Nuclear Emergency Matters (INEX) has:

1. Prepared draft report on the NEA evaluation of the INEX 2000 exercise in May 2001 in France. The exercise was part of a joint exercise internationally co-ordinated with the IAEA, the EC, the WMO, the WHO, and UN-OCHA.
2. Prepared a draft report on “Short-term countermeasures in case of a nuclear or radiological emergency” based on a survey of national approaches.
3. Launched a questionnaire on Member countries key interest in the field of nuclear emergency preparedness and management.
4. Developed a proposal for an INEX 3 Exercise

The Information System on Occupational Exposure (ISOE) has:

1. Finalised the ISOE Software for data input, data handling, experience exchange and data analysis. Prepared a User’s Manual for the ISOE Software. The ISOE Working Group on Software Development was disbanded.
2. Published the 11th ISOE Annual Report.
3. Published report “ISOE – Information System on Occupational Exposure, Ten Years of Experience, OECD, 2002”.
4. Organised two International ISOE Workshops on occupational exposure in nuclear power plants (Portoroz, Slovenia, April 2002 and Orlando, Florida, January 2003)
5. Initiated an ISOE Working Group on Operational Radiation Protection (WGOR) to interact with the International Commission on Radiological Protection (ICRP) in order to provide the occupational radiation protection specialists’ views on the development of new ICRP recommendations.

The Expert Group on the Evolution of the System of Radiation Protection (EGRP) has:

1. Finalised its report titled, “The Way Forward: Evolution of the System of Radiological Protection”. This has been supplied to the ICRP, and has been widely distributed within the NEA family.
2. Finalised a consultant’s report which “road tests” two of the key ideas developed in “The Way Forward”. This consultant’s report will be presented to the CRPPH at its March 2003 meeting, and will be published and widely distributed within the NEA family.

3. Organised and held the Asian Regional Conference on the evolution of the System of Radiological Protection, Tokyo, 24 - 25 October 2002.

The Expert Group on the Process of Stakeholder Involvement (EGPSI) has:

1. Finalised four analyses prepared by consultants to draw out the procedural aspects of the various case studies presented at the 1st and 2nd Villigen Workshops
2. Developed and sent the announcement for the 3rd Villigen Workshop, to be held from the 21st to the 23rd of October 2003, hosted by the Swiss Federal Nuclear Safety Inspectorate (HSK) in Villigen, Switzerland.

The Expert Group on the Implications of Effluent Release Options (EGRO) has:

1. Finalised its draft report on “The Implications of Effluent Release Options”.

The Expert Group on the Implications of ICRP Recommendations (EGIR) has:

1. Performed an assessment of the possible implications of two draft ICRP recommendations, on the radiological protection of non-human species, and on the Commission’s general recommendations for a system of radiological protection.
2. Finalised draft report, Possible Implications of Draft ICRP Recommendations.

NEA Collaboration with the ICRP has resulted in:

1. Holding the first NEA/ICRP Forum, *The Radiological Protection of the Environment: the Path Forward to a New Policy*, Taormina, Sicily, Italy, 12 - 14 February 2002.
2. Publishing of the Proceedings from this Forum
3. Published of a policy-level summary of the Forum’s results
4. The Sending of the Announcement for the 2nd NEA/ICRP Forum, *The Future Policy for Radiological Protection: A stakeholder dialogue on the implications of the ICRP proposals*, Lanzarote, Canary Islands, Spain, 2 - 4 April 2003.

The CRPPH, the Bureau and the Secretariat have:

1. Held the SILENE accident dosimetry intercomparison exercise, 9 - 21 June 2002.
2. Contributed to the NEA’s cross-cutting activity in the area of decommissioning, developing work in the area of authorisation for the release of radioactive materials from regulatory control.

Planned Activities for 2003 (March 2003 to March 2004)

The Working Party on Nuclear Emergency Matters (INEX) will:

1. Publish the report “INEX 2000 Exercise Evaluation”.
2. Publish the report “Short-term countermeasures in case of a nuclear or radiological emergency”
3. Develop a detailed INEX 3 exercise proposal.
4. Evaluate the questionnaire on Member countries key interest in the field of nuclear emergency preparedness and management.
5. Develop a new strategy for the Working Party on Nuclear Emergency Matters including an updated Terms of Reference.
6. Study the area of short-term countermeasures following a “dirty bomb” situation, and develop a report if there is additional useful information to add to what has already been documented by other international organisations (IAEA, EC)

The Information System on Occupational Exposure (ISOE) will:

1. Write a letter to top-level management: Information on ISOE and the importance of a practicable experience exchange system.
2. Publish the 12th ISOE Annual Report to facilitate effective management of occupational exposure at nuclear power plants.
3. Further promote the use of the ISOE system and enhance its visibility.
4. Prepare the next International ISOE Workshop on occupational exposure in nuclear power plants (24 - 26 March 2004, Lyon France)
5. Finalise and publish the results from the ISOE Working Group on Operational Radiation Protection (WGOR). Forward the key findings to the International Commission on Radiological Protection (ICRP).
6. Perform an overall evaluation of its objectives, Terms and Conditions and structure to propose to its Steering Group any suggested modifications to make the programme more effective and efficient.

The Expert Group on the Evolution of the System of Radiation Protection (EGRP) will:

1. Publish the final report of its road-test case studies,
2. Publish the Proceedings and Summary document of the Asian Regional Conference on the Evolution of the System of Radiological Protection, and disband as a result of the completion of its Mandate.

The Expert Group on the Process of Stakeholder Involvement (EGPSI) will:

1. Finalise the four analyses of common process aspects that can be extracted from regional case studies, and publish a summary report that will be presented at the 3rd Villigen Workshop.
2. Hold the 3rd Villigen Workshop (21 - 23 October 2003).
3. Publish Workshop proceedings to document and summarise the policy-level implications of the issues discussed.
4. Submit Paper to the IRPA-11 Congress

The Expert Group on the Implications of Effluent Release Options (EGRO) will:

1. The Expert Group will finalise and publish its report, The Implications of Effluent Release Options, and disband as a result of the completion of its Mandate.

The Expert Group on the Implications of ICRP Recommendations (EGIR) will:

1. Present its findings at the 2nd NEA/ICRP Forum, 2 - 4 April 2003, and based on comments will finalise and publish its report on the possible implications of draft ICRP's recommendations.

The Expert Group on the Regulatory Aspects of Authorisation (EGRA) will:

1. Finalise its Terms of Reference for final approval by the CRPPH Bureau.
2. Present its draft report to the CRPPH at its March 2004 meeting.
3. Submit a paper for presentation at the IRPA-11 Congress.

The Expert Group on Stakeholder Involvement in the Management of an Urban Radiological Contamination (EGUC) will:

1. Finalise its Terms of Reference for final approval by the CRPPH Bureau.
2. Perform a literature search of relevant stakeholder involvement aspects of urban contamination situations
3. Catalogue the relevant activities currently ongoing or planned by other international organisations.
4. Develop a proposal for possible further work in this area to be submitted to the CRPPH for consideration during its March 2004 meeting.

In the area of the Evolution of the System of Radiological Protection, the NEA will:

1. Hold the 2nd NEA/ICRP Forum, The Future Policy for Radiological Protection: A stakeholder dialogue on the implications of the ICRP proposals. The Forum will be hosted by the Spanish Consejo de Seguridad Nuclear (CSN), and will take place from the 2nd to the 4th of April 2003 in Lanzarote, the Canary Islands.
2. Prepare the Proceedings from the conference, and develop and publish a brief document summarising the policy-level results of the Forum.

Annex 2

**List of Members of the Committee on
Radiation Protection and Public Health (CRPPH)
And its Sub-Groups
(March 2003)**

NEA MEMBER COUNTRY LIST

COUNTRY	NAME	ORGANISATION	WORKING PARTY
AUSTRALIA	Mr. Allan MURRAY	ARPNSA	CRPPH
	Mr. Stuart PROSSER	ARPNSA	CRPPH
	Dr. Wayne GARRETT	ANSTO	CRPPH
AUSTRIA	Mr. Johann-Klaus HOHENBERG	Federal Ministry	CRPPH, INEX
	Mr. Rainer SCHEFFENEGGER	Federal Ministry	CRPPH
BELGIUM	Mr. Jean-Paul SAMAIN	Agence Fédérale de Contrôle	CRPPH
	Dr. Patrick SMEESTERS	SPRI	CRPPH
	Mr. Pierre STALLAERT	Ministère de l'Emploi et du SSTIN	CRPPH
	Dr. L.G. THIERS	Min. de la Santé Publique	CRPPH
	Mr. Erik COTTENS	SPRI	CRPPH
	Mr. Jean-Marie LAMBOTTE	Agence Fédérale de Contrôle Nucléaire	EGRO
	Mr. Philippe LAURENT	S.A ELECTRABEL	ISOE
Mr. Christian BRESCH	S.A ELECTRABEL	ISOE	
CANADA	Mr. Rod UTTING	CNSC	CRPPH
	Dr. Anthony WAKER	AECL	CRPPH
	Mr. Jean Patrice AUCLAIR	Health Canada	INEX
	Ms. Helen GRIFFITHS	Health Canada	INEX
	Mr. R.W. POLLOCK	COGEMA	EGIR
	Mr. Jean-Yves GAGNON	Gentilly Nuclear Power Plant	ISOE
	Ms. Jennifer NORONHA	Ontario Hydro Nuclear	ISOE
	Mr. Francois RINFRET	CNSC	ISOE
	Mr. Mike SITTER	Whitby	ISOE
CZECH REPUBLIC	Ms. Dana DRABOVA	State Office for Nuclear Safety	CRPPH
	Mr. Zdenek PROUZA	State Office for Nuclear Safety	CRPPH, EGIR
	Ms. Vera STAROSTOVA	State Office for Nuclear Safety	INEX
	Mr. Jiri HULKA	SURO	EGRP
	Prof. Vladislav KLENER	State Office for Nuclear Safety	EGIR
	Ms. Karla PETROVA	State Office for Nuclear Safety	ISOE, EGIR
Mr. Peter RYDLO	Dukovany Nuclear Power Plant	ISOE	
DENMARK	Mr. Per HEDEMANN JENSEN	RISO National Laboratory	CRPPH
	Mr. Kaare ULBAK	National Institute of Radiation Hygiene	CRPPH
	Mr. Steen HOE	DEMA, Nuclear Safety Division	INEX
FINLAND	Mr. Olli VILKAMO	STUK	CRPPH, EGRO
	Dr. Riitta HANNINEN	STUK	CRPPH, EGRP, EGIR
	Ms. Hannele AALTONEN	STUK	INEX
	Mr. Eero KETTUNEN	STUK	EGPSI
	Mr. Kari KUKKONEN	Olkiluoto Power Plant	ISOE
	Mr. Veli RIIHILUOMA	STUK	ISOE
	Mr. Jukka SOVIJARVI	Olkiluoto Power Plant	ISOE
	Ms. Kirsi ALM-LYTZ	STUK	ISOE
	Ms. Satu KATAJALA	Loviisa Power Plant	ISOE

COUNTRY	NAME	ORGANISATION	WORKING PARTY
FRANCE	Mr. Jacques LOCHARD	CEPN	CRPPH, EGUC, EGPSI,
	Mr. André OUDIZ	IRSN	CRPPH, EGRP, EGPSI
	Mr Jean-Luc LACHAUME	DGSIN	CRPPH
	Mr. George MONCHAUX	IRSN	CRPPH
	Dr. Pierre-Nöel LIRSAC	INSTN	CRPPH
	Mr. Jean-Luc PASQUIER	IRSN	CRPPH
	Mr. Bruno DUFER	IRSN	INEX
	Mr. Jean-Claude BARESCUT	IRSN	EGIR
	Mr. Michel CHARTIER	IRSN	EGRO
	Mr. Sylvain SAINT-PIERRE	COGEMA	EGIR, EGRP, EGPSI
	Mr. Dominique CALMET	CEA	EGRO
	Ms. Hélène CHARPENTIER	Ministry of Industry, DGEMP	EGRO
	Mr. Jacques LAMBOTTE	Ministry of Industry, DGEMP	EGRO
	Mr. Philippe COLSON	EDF	ISOE, EGRO
	Mr. Gerard CORDIER	EDF	ISOE
	Mr. Bruno CORGNET	EDF	ISOE
	Mr. Olivier COUASNON	IRSN	ISOE
	Mr. Yves GARCIER	EDF	ISOE
	Mr. Jean-Bernard SERVAJEAN	EDF	ISOE
Mr. Dominique VALLA	EDF	ISOE	
Mr. Marc CHAMPION	IRSN	ISOE	
GERMANY	Dr. Wolfgang WEISS	BfS	CRPPH, EGRP
	Dr. Hans LANDFERMANN	BMU	CRPPH, EGRO
	Dr. Herwig PARETZKE	GSF	CRPPH
	Ms. Sabine BITTNER	BfS	INEX
	Dr. Gerald KIRCHNER	BfS	EGIR
	Ms. Monika MUELLER-NEUMANN	BMU	EGRO
	Ms. Dagmar DERDAU	Kernkraftwerk Krümmel	ISOE
	Dipl.-Ing. Peter JUNG	Philippsburg Nuclear Power Plant	ISOE
	Mr. Peter KAPTEINAT	VGB	ISOE
Dr. Wolfgang PFEFFER	GRS	ISOE	
GREECE	Dr. Constantine HOURDAKIS	Greek Atomic Energy Commission	CRPPH
HUNGARY	Dr. Laszlo KOBLINGER	HAEA	CRPPH, EGRP, EGPSI, EGIR
	Dr. Ivàn LUX	HAEA	INEX
	Dr. Gabor VOLENT	PAKS Nuclear Power Plant Ltd.	ISOE
ICELAND	Mr. Sigurdur M. MAGNUSSON	Icelandic Radiation Protection Institute	CRPPH, EGIR
	Mr. Sigurdur Emil PALSSON	Icelandic Radiation Protection Institute	INEX
IRELAND	Dr. Ann MCGARRY	RPII	CRPPH, EGRP
	Mr. David POLLARD	RPII	INEX
	Dr. Barbara RAFFERTY	RPII	EGIR
	Dr. Tom RYAN	Previously RPII, Currently EC	EGRO
ITALY	Dr. Enrico SGRILLI	APAT	CRPPH, EGRP
	Dr. Salvatore FRULLANI	Istituto Superiore di Sanita	CRPPH, EGRP, EGIR
	Dr. Luigi FRITTELLI	APAT	CRPPH
	Dr. Sergio MANCIOPPI	APAT	INEX
	Dr. Luciano BOLOGNA	APAT	EGRP
	Mr. Carlo ROLLO	APAT	ISOE
Dr. Vincenzo ZACCARI	Italian Electricity Company	ISOE	

COUNTRY	NAME	ORGANISATION	WORKING PARTY
JAPAN	Dr. Yasuhiro YAMAGUCHI	JAERI	CRPPH
	Mr. Yasukazu FUKUDA	METI	CRPPH
	Mr. Masaharu ISHIDA	MEXT	CRPPH
	Mr. Hirohide KOBAYASHI	JNC	CRPPH
	Mr. Tetsuo NAYUKI	MEXT	CRPPH
	Dr. Tsutomu ISHIGAMI	JAERI	INEX
	Ms. Sumi YOKOYAMA	Nuclear Safety Commission	EGPSI
	Dr. Masahiro DOI	NIRS	EGIR
	Dr. Hiroshi NOGUCHI	JAERI	EGIR
	Mr. Kimio ITO	JNC	EGRO
	Mr. Shohei KATO	JAERI	EGRP
	Mr. Naoyuki MURATA	NUPEC	ISOE
	Ms. Akiko OGATA	NUPEC	ISOE
	Mr. Hideaki YAMAKAWA	Japan Atomic Power Company	ISOE
REPUBLIC OF KOREA	Mr. Jae-ok CHANG	MOST	CRPPH
	Dr. Si Young CHANG	Korea Atomic Energy Research	CRPPH
	Mr. Seog-Geun KWON	KINS	CRPPH
	Mr. Myong-Kuk MOON	Korea Electric Power Corp.	CRPPH
	Dr. Seong Ho NA	KINS	ISOE
	Dr. Sang-Duk SA	MOST	ISOE
	Mr. Bo Kyun SEO	KINS	ISOE
	Dr. Kun-Woo CHO	KINS	ISOE
LUXEMBOURG	Dr. Michel FEIDER	Direction de la Santé	CRPPH
MEXICO	Mr. H. MALDONADO MERCADO	CNSNS	CRPPH
	Mr. José Raul ORTIZ MAGANA	CNSNS	CRPPH
	Mr. Sergio H. ZORRILLA	Laguna Verde Nuclear Power	ISOE
NETHERLANDS	Dr. Ciska ZUUR	VROM	CRPPH, INEX, EGPSI
	Mr. Wim H. MOLHOEK	VROM	CRPPH, INEX
	Mr. Antonius MEERBACH	NV EPZ	ISOE
NORWAY	Mr. Gunnar SAXEBOL	NRPA	CRPPH
	Mr. Finn UGLETVEIT	NRPA	INEX
PORTUGAL	Dr. Fernando CARVALHO	Instituto Tecnológico e Nuclear	CRPPH
	Mr. Antonio FERRO DE CARVALHO	Instituto Tecnológico e Nuclear	CRPPH
SLOVAK REPUBLIC	Mr. Vladimír JURINA	State Health Institute	CRPPH
	Mr. Vladimír MICHAL	VUJE Research Institute	CRPPH
	Mr. Vladimír SLÁDEK	Nuclear Regulatory Authority	INEX
	Ms. Tatiana DURANOVÀ	VUJE Research Institute	INEX
	Mr. Ondrej SLÁDEK	VUJE Research Institute	EGRO
	Mr. Lubomír DOBIS	Bohunice Nuclear Power Plant	ISOE
	Mr. Dusan VIKTORY	National Public Health Institute	ISOE
SLOVENIA (observer country)	Dr. Helena JANZEKOVIC	SNSA	CRPPH, ISOE
	Mr. Borut BREZNIK	Krsko Nuclear Power Plant	EGRO
	Ms. Melena CERNILOGAR RADEZ	SNSA	ISOE
	Mr. Milko Janez KRIZMAN	SNSA	ISOE
SPAIN	Mr. Mr Manuel RODRIGUEZ	CSN	CRPPH
	Mr. David CANCIO PEREZ	CIEMAT	CRPPH
	Mr. Pedro CARBONERAS	ENRESA	CRPPH
	Mr. José GUTIERREZ LOPEZ	CIEMAT	CRPPH
	Mr. Carlos SANCHO LLERADI	CIEMAT	CRPPH
	Mr. Patricio O'DONNELL	Previously CSN	EGRO, EGRP
	Ms. Beatriz GOMEZ-ARGUELLO	TECNATOM	ISOE
	Ms. Teresa LABARTA	CSN	ISOE

COUNTRY	NAME	ORGANISATION	WORKING PARTY
SWEDEN	Mr. B. Ake PERSSON	SSI	CRPPH, EGRP
	Dr. Jan Olof SNIHS	SSI	CRPPH
	Dr. Erik HOGLUND	SSI	INEX
	Mr. Carl-Magnus LARSSON	SSI	EGIR
	Dr. Ingemar LUND	SSI	EGIR
	Dr. Leif MOBERG	SSI	EGRO
	Mr. Carl Göran LINDVALL Mr. Christer SOLSTRAND	Barsebäck Nuclear Power Plant OKG Aktiebolag	ISOE ISOE
SWITZERLAND	Dr. Johannes HAMMER	HSK	CRPPH
	Dr. Bernard MICHAUD	Office Fédéral de la Santé Publique	CRPPH
	Dr. R. ANDRES	PSI	CRPPH, EGIR
	Mr. Dominique RAUBER	NAZ	CRPPH, INEX
	Dr. Martin A. BAGGENSTOS	NAZ	INEX
	Dr. Serge PRETRE	(Retired) HSK	EGPSI
	Dr. Werner ZELLER Mr. Swen-Gunnar JAHN	BAG HSK	EGRP ISOE
TURKEY	Dr. Ibrahim USLU	Turkish Atomic Energy Authority	CRPPH
UNITED KINGDOM	Mr. Ian ROBINSON	Health & Safety Executive	CRPPH, EGRP
	Dr. Clive WILLIAMS	Environment Agency	CRPPH, EGIR
	Dr. John COOPER	NRPB	CRPPH
	Dr. Joe MCHUGH	Environment Agency	Previously CRPPH, EGRP
	Mr. Keith BINFIELD	DETR	INEX
	Mr. Colin PATCHETT	Nuclear Safety Directorate	INEX
	Mr. Robert E SMITH	Environment Agency	EGRO
	Dr. Patrick STEPHEN	NII	EGIR
	Mr. Mike A. BONE Dr. A. ZODIATES	Sizewell B Nuclear Power Plant Sizewell B Nuclear Power Plant	ISOE ISOE
UNITED STATES OF AMERICA	Mr. C. Rick JONES	DOE	CRPPH
	Mr. Michael BOYD	EPA	CRPPH, EGRP, EGIR
	Ms. Cheryl TROTTIER	NRC	CRPPH
	Mr. Vince MCCLELLAND	DOE	INEX
	Ms Ann HEINRICH	DOE	INEX
	Ms. Patricia MILLIGAN	NRC	INEX
	Ms. Deborah KOPSICK	EPA	INEX
	Mr. Tim HARRIS	NRC	EGIR
	Ms Harriet KARAGIANNIS	NRC	ISOE
	Mr. Dick WARNOCK	San Onofre Nuclear Generating Station	ISOE
	Dr. David MILLER	North American Technical Centre	ISOE
	Mr. John BLAIKIE	Comanche Peak Nuclear Power Plant	ISOE
	Dr. Richard DOTY	Pennsylvania Power & Light Co	ISOE

OBSERVERS FROM INTERNATIONAL ORGANISATIONS

ORGANISATION	NAME	WORKING PARTY
IAEA	Dr. Abel J. GONZALEZ	CRPPH
	Dr. Tony D. WRIXON	EGRP
	Dr. Gordon LINSLEY	EGRO
	Ms. Carol ROBINSON	EGRO
	Dr. Carlos Alberto NOGUEIRA	INEX
	Dr. Monica GUSTAFSSON	ISOE
EC	Mr. Stephen KAISER	CRPPH
	Dr. Augustin JANSSENS	EGRO, EGPSI
	Dr. Vesa TANNER	INEX
	Mr. Klaus SCHNUER	ISOE
ICRP	Dr. Jack VALENTIN	CRPPH
IRPA	Mr. Jacques LOCHARD	CRPPH
WHO	Dr. Mike Repacholi	CRPPH
WANO-Paris Centre	Mr. John MOARES	ISOE
	Mr. Jürgen SCHLEGEL	ISOE

NON - NEA MEMBER COUNTRY LIST

COUNTRY	NAME	ORGANISATION	WORKING PARTY
ARMENIA	Mr. Vovik ATOYAN	ANRA	ISOE
	Ms. Aida AVETISYAN	ANRA	ISOE
BRAZIL	Mr. Ronaldo N. VIANA	Angra 1 Nuclear Power Plant	ISOE
BULGARIA	Mr. Georgi VALTCHEV	Kozloduy Nuclear Power Plant	ISOE
	Ms. Lidia KATZARTSKA		
LITHUANIA	Mr. Gintautas KLEVINSKAS	Radiation Protection Centre	ISOE
	Mr. Victor PLETNIOV	Ignalina Nuclear Power Plant	ISOE
PAKISTAN	Ms. Bushra NASIM	Pakistan Atomic Energy Commission	ISOE
P.R. OF CHINA	Mr. Jin-Tao ZHANG	China National Nuclear Corporation	ISOE
	Mr. Mei-Jing WU	Qin Shan Nuclear Power Company	ISOE
	Mr. Jiang JIANQI	Qin Shan Nuclear Power Company	ISOE
	Mr. Maochun YANG	Daya Pay Nuclear Power Plant	ISOE
RUMANIA	Mr. Ruhan IBADULA	Cernovoda Nuclear Power Plant	ISOE
	Mr. Alexandru RODNA	Romania National Commission	ISOE
RUSSIAN FED.	Mr. Boris BEZRUKOV	ROSENERGOATOM	ISOE
SOUTH AFRICA	Mr. Kasturi JUTLE	Council for Nuclear Safety	ISOE
	Mr. Marc MAREE	Koeberg Nuclear Power Station	ISOE
UKRAINE	Ms. Tetyana LISOVA	MINTOP	ISOE

Annex 3
**Mandates
of Working Parties and Expert Groups**

The Working Party on Nuclear Emergency Matters (WPEM, formerly INEX)

Terms of Reference

Created: April 1993

Revised: April 2000

Next Review: March 2003

Chair: Mr. Wim Molhoek, The Netherlands

Vice-Chair: Mr. Vince McClelland, United States

The Terms of Reference of this Group are as follows:

- To develop and periodically update a strategy document for the Working Party on Nuclear Emergency Matters;
- To initiate further studies based on lessons learned to date from international nuclear emergency exercises, e. g. INEX 1, INEX 2 and INEX 2002, and their related workshops;
- To initiate and study the organisation of the INEX 2000 exercise, to be carried out in the beginning of 2001, together with other international agencies such as the IAEA, the EC, the WHO and the WMO;
- To co-ordinate the overall INEX 2000 exercise assessment and post-exercise analysis of lessons learned, and to publish the results jointly with other international agencies such as the IAEA, the EC, the WHO and the WMO;
- To co-ordinate the organisation of INEX 2000 follow-up exercises;
- To develop an exercise validation process and validate past lessons learned;
- To address the societal aspects of nuclear emergencies;
- To initiate and study the organisation of a third generation of nuclear emergency exercises called INEX 3, according to the strategy for the Working Party on Nuclear Emergency Matters;
- To organise workshops and working groups, as appropriate, to identify further advancements in nuclear emergency planning, preparedness and management; and
- To report periodically to the CRPPH on progress of the programme.

The Information System on Occupational Exposure (ISOE)

Terms and Conditions

Created: April 1992

Revised: April 2000

Next Review: March 2004

Chair:	Mr. Carl-Göran Lindvall, Sweden
Chair Elect:	Mr. Jean-Yves Gagnon, Canada
Past Chair	Mr. Borut Breznik, Slovenia
Regulator Vice-Chair:	Dr. Seong Ho NA, Republic of Korea

As of the 1st January 1995, the participation in ISOE was renewed with a new period of validity for the ISOE Terms and Conditions of four years (NEA/ISOE/DOC(95)1). This period ended on 31st December 1998. At the 8th meeting of the ISOE Steering Group in October 1998, draft revised ISOE Terms and Conditions have been discussed. As there have been some comments concerning the role of the Joint NEA/IAEA Secretariat, the approval of the new Terms and Conditions has been postponed.

Since that meeting, the following changes have been made compared to the Terms and Conditions, version October 1996:

- a. The Terms and Conditions now reflect that the IAEA and the OECD/NEA form a Joint Secretariat. This includes two new Articles:
 - (1) New Article 8 explains the role of the ISOE Joint Secretariat
 - (2) New Article 10 reflects the role of the International Atomic Energy Agency, comparable to Article 9 that explains the role of the OECD Nuclear Energy Agency.
- b. There is a new Article 7 on the role of the ISOE Steering Group Bureau.
- c. The ISOE Technical Centres are no longer referred to as “regional”. In addition, the explicit citation of the four Technical Centres had been deleted in the first paragraph of the preamble as well as in Article 2 (d). The Technical Centres are now explicitly listed in Annex 1 of the ISOE Terms and Conditions.

At its 9th meeting on 27 - 29 October 1999, the ISOE Steering Group unanimously approved the new ISOE Terms and Conditions, and each participant in the ISOE programme renewed his participation. With the renewal of participation in ISOE, the adopted ISOE Terms and Conditions will be valid for a period of four years, ending 31st December 2003.

The full text of the ISOE Terms and Conditions is available as document NEA/CRPPH/ISOE(2000)4REV2.

The Expert Group on the Evolution of the System of Radiation Protection (EGRP)

Terms of Reference

Created: April 2000

Next Review: March 2002

Chair: Dr. Joe McHugh, United Kingdom

The Terms of Reference of this Group are as follows:

1. The Expert Group should identify the areas of the current system of radiation protection that are, in the Group's opinion, most in need of further elaboration. The starting point for this work should be the CRPPH report, "A Critical Review of the System of Radiation Protection: First Reflections by the OECD Nuclear Energy Agency's Committee on Radiation Protection and Public Health". A prioritised list of areas should be developed.
2. The Expert Group should develop more detailed discussions of the top five priority issues, and prepare a report for the CRPPH with suggestions as to what changes should be made, or which direction discussions should be pursued.
3. The Expert Group should engage with Professor Clarke and others to participate at meetings and fora, on behalf of the CRPPH, that discuss and further activities to address and advance this dialogue.
4. The Expert Group should use a case-study approach to "road test" its proposed changes, to assure that the changes move the system of radiation protection towards a more understandable, easy to apply, and acceptable system.
5. The Expert Group should report on its progress during the March 2001 meeting of the CRPPH, and should submit a summary report of its recommendations to the CRPPH for review and approval at the latest during the 2002 meeting of the CRPPH. The report should include recommendations as to where further work could be usefully pursued by the CRPPH.

The resulting CRPPH issues paper should be submitted to the international community, and particularly to the ICRP, as a contribution to the debate to advance the future evolution of the system of radiation protection.

The Expert Group on the Process of Stakeholder Involvement (EGPSI)

Terms of Reference

Created: March 2001

Next Review: March 2003

Chair: Mr. Jacques Lochard, France

The Terms of Reference of this Group are as follows:

1. The Expert Group will develop a document summarising the policy-relevant aspects of the process of stakeholder involvement. This document should be presented during the 3rd Villigen Workshop and, based on discussions there, be finalised for review and approval by the CRPPH no later than the 2004 CRPPH meeting.
2. In support of this first task, the Expert Group will analyse, with the help of consultants, good practice in stakeholder involvement in radiological protection decision making and resulting policy implications based on recent national experiences, such as those presented during Villigen 1 and Villigen 2 workshops. A report of this work should be completed by early 2003 and presented at the 3rd Villigen Workshop.
3. The Expert Group will be responsible for the development of the programme for the 3rd Villigen Workshop based on an enlarged meeting of the EGPSI that will include relevant stakeholders. This programme will be submitted to the CRPPH for review and approval during the Committee's March 2002 meeting. The 3rd Villigen Workshop should take place in the late Spring or early Summer of 2003.

The Expert Group will be responsible for the preparation of Workshop proceedings that will be published, after approval by the CRPPH, within approximately 6 months following the workshop.

4. The results of this CRPPH Expert Group should be presented to the international community, including timely submittal of a paper for the IRPA-11 Congress, and particularly to the ICRP so that the policy-relevant aspects of stakeholder involvement will be considered as the Commission develops new recommendations.
5. The Expert Group should report on its progress during the 2002 and 2003 meetings of the CRPPH, and should plan to complete its mandate no later than the 2004 meeting of the CRPPH.

Expert Group on the Implications of Effluent Release Options (EGRO)

Terms of Reference

Created: March 2001

Next Review: March 2003

Chair: Mr. Olli Vilkkamo, Finland

The Terms of Reference of this Group are as follows:

1. Identify various options for the routine release of low-level radioactive substances from nuclear installations, including the option of “close to zero” gaseous and liquid releases.
2. Discuss the technical implications of the options identified.
3. Compare the concepts of “Best Available Technology (BAT)” and “As Low As Reasonable Achievable (ALARA)” as underlying principles for the optimisation process regarding radioactive effluent releases. Investigate whether these approaches lead to the same result.
4. Based on this work, develop a draft document with factual information on various effluent release options, in co-operation with other NEA committees such as the CNRA, NDC and RWMC. The document may be used to assist future discussions, nationally and internationally. Submit the draft document to CRPPH members for review and comment, with the aim of publication by the end of 2002.

Expert Group on the Implications of ICRP Recommendations (EGIR)

Terms of Reference

Created: March 2002

Complete Terms: February 2004

Chair: to be determined

The Terms of Reference of this Group are as follows:

Within the context of the current CRPPH Programme of Work, the EGRP work will identify the possible implications of the ICRP's new draft recommendations concerning the overall framework of the system of radiological protection, and the radiological protection of the environment. The Group will also suggest ways that the final ICRP Recommendations could best serve the needs of national and international policy makers, regulators and implementers. The following tasks will be carried out:

1. The Expert Group will assist the Secretariat in developing a Programme for the 2nd NEA / ICRP Forum.
2. The Expert Group will, following the release of the draft ICRP recommendations, analyse its possible implications to national and international level radiological protection policy, regulation, and implementation. The Group will also develop suggestions, if appropriate, as to how the draft recommendation could better address the needs of these affected groups. Because of time constraints, this work will be carried out through one meeting in January or February 2003, and electronic communications to develop a report for submission to the CRPPH for discussion and approval.
3. The Expert Group will present its final draft results to the CRPPH at its March 2003 meeting. The CRPPH will discuss this topic during a special topical session, and will instruct the Expert Group how to proceed to finalise its report.
4. The Expert Group will finalise its report, based on input from the CRPPH, and will present this work at the 2nd NEA / ICRP Forum, to be held in June 2003.
5. The Expert Group will contribute to the finalisation of results from the 2nd NEA / ICRP Forum, particularly in the form of a summary report and the Forum proceedings by January 2004..

Deliverables

- Programme for the 2nd Forum: End of 2002
- Draft Report to CRPPH for Discussion: March 2003
- Final Expert Group Report: May 2003
- Presentation at 2nd Forum: June 2003
- Summary of Forum Results: September 2003
- 2nd Forum Proceedings: January 2004

Expert Group on the Regulatory Application of Authorisation (EGRA)

Terms of Reference

Created: March 2003

Complete Terms: March 2005

Chair: to be determined

The Terms of Reference of this Group are as follows:

The goal of the Expert Group is to develop a more detailed understanding of the regulatory concept of Authorisation, from a conceptual and practical standpoint, to clarify for radiological protection regulatory authorities and practitioners how such a concept could be applied, and to help to assure a harmony between ICRP recommendations and their practical application.

Within the context of the current CRPPH Programme of Work, the EGRA will study the concept of Authorisation in a practical context, investigating the scope of and approach to Authorisation, in order to assist regulators and practitioners in understanding how this concept could be implemented. The work of the Group will be provided to the international radiological protection community, and to the ICRP, for consideration. It is hoped that this work will help assure that the Commission's recommendations, and their regulatory and practical application, remain in harmony.

The following tasks will be carried out:

1. Using the relevant CRPPH publications, and the draft ICRP text as a starting point, the Expert Group will develop its views on how the concept of Authorisation could be more fully defined, understood and implemented.
2. The Expert Group will present its draft results to the CRPPH at its March 2004 meeting. The CRPPH will discuss this topic, and will instruct the Expert Group how to proceed to finalise its report.
3. The Expert Group will finalise its report, based on input from the CRPPH.

Deliverables

- Final Expert Group Terms of Reference: September 2003
- Report to CRPPH for Discussion: March 2004
- Propose Paper for presentation at IRPA-11 Meeting, May 2004
- Final Expert Group Report to CRPPH: End 2004
- Final Approval by CRPPH for publication: March 2005

Expert Group on the Management of Radiological Contamination in an Urban Environment (EGUC)

Terms of Reference

Created: March 2003

Complete Terms: March 2004

Chair: Mr. Jacques Lochard, France

The Terms of Reference of this Group are as follows:

The Goal of this Expert Group will be to explore real world, technical, organisational, policy and other aspects of stakeholder participation, including the possibility of developing hands-on work in an actual contaminated urban environment to provide an opportunity for CRPPH member countries to gain actual experience engaging with impacted stakeholders.

Within the context of the current CRPPH Programme of Work, the EGUC will study the practical aspects of the long-term management of contamination in an urban environment. Feedback from this experience to the policy and structural aspects of long-term management issues will also be developed. The work of the Group will be provided to the international radiological protection community for consideration.

Using the relevant CRPPH publications as a starting point, the Expert Group will develop its views on how the key aspects of stakeholder participation in the management of long-term contamination in an urban environment could be considered. The work will include a literature search of relevant experience, including the experience at Goiânia, in the Chernobyl contaminated territories and in European cities affected by the Chernobyl accident, and in current levels of knowledge in the Civil Protection area. This work will be provided to the CRPPH membership for their use and reference. The Group will also communicate and catalogue the activities in this area (e.g., IAEA, UNSCEAR, etc...) to identify a unique contribution the CRPPH can make to advance our knowledge in this area. Based on this study, the Expert Group will attempt to identify areas where the CRPPH could meaningfully contribute to this area, and will propose this to the CRPPH at its March 2004 meeting.

In addition, the Working Party on Nuclear Emergency Matters will develop a short report on those aspects of early response to a dirty bomb explosion in an urban environment would differ from those of response to a more conventional nuclear accident. This report will be presented to the CRPPH at its 2004 meeting.

Deliverables

- Final Expert Group Terms of Reference
- Literature Search Summary Report
- Catalogue of Activities
- Proposal for possible further work to the CRPPH for consideration at its March 2004 meeting.

*Annex 4***Bibliography of Recent CRPPH Publications**

1. Possible Implications of Draft ICRP Recommendations, An Assessment by the OECD Nuclear Energy Agency Committee on Radiation Protection and Public Health, OECD/NEA, 2003
2. Effluent Release Options from Nuclear Installations: Technical Background and Issues Relevant to Regulatory Control, OECD/NEA, 2003
3. Asian Views on the Evolution of the System of Radiological Protection, Summary Report of the Issues, OECD/NEA, 2003
4. Proceedings of the Asian Regional Conference on the Evolution of the System of Radiological Protection, Tokyo, 24 - 25 October 2002, OECD/NEA 2003
5. A New Approach to Authorisation: A Road Test of the Ideas of the CRPPH Expert Group on the Evolution of the System of Radiological Protection, prepared by R.V. Osborne and F.J. Turvey, OECD/NEA, 2003
6. Radiological Protection of the Environment: The Path Forward to a New Policy? - Summary Report of the Issues, OECD/NEA, 2003
7. Radiological Protection of the Environment: The Path Forward to a New Policy? - Proceedings of the NEA Forum on Radiological Protection of the Environment, OECD/NEA, 2003
8. Chernobyl: Assessment of Radiological and Health Consequences, 2002 Update of Chernobyl: Ten Years On, OECD/NEA, 2002
9. The Way Forward in Radiological Protection, An Expert Group Report, OECD/NEA, 2002
10. ISOE - Information System on Occupational Exposure: Ten Years of Experience, OECD/NEA, 2002
11. Occupational Exposures at Nuclear Power Plants: 11th Annual Report of the ISOE Programme, 2001, OECD/NEA, 2002
12. Policy Issues in Radiological Protection Decision Making: Summary of the 2nd Villigen (Switzerland) Workshop, January 2001, OECD/NEA 2001
13. Better Integration of Radiation Protection in Modern Society: Workshop Proceedings, Villigen Switzerland, 23 - 25 January 2001, OECD/NEA, 2001
14. CRPPH Sponsored Survey of University-Level Education Programmes in Radiation Protection, NEA/CRPPH(2001)8, OECD/NEA, 2001
15. Experience from International Nuclear Emergency Exercises: The INEX 2 Series, OECD/NEA, 2001
16. Second International Nuclear Emergency Exercise INEX 2: Final Report of the Canadian Regional Exercise, OECD/NEA 2001

17. Occupational Exposures at Nuclear Power Plants: Tenth Annual Report of the ISOE Programme, 2000, OECD/NEA, 2001
18. Second International Nuclear Emergency Exercise INEX 2: Final Report of the Finnish Regional Exercise, OECD/NEA 2000
19. Second International Nuclear Emergency Exercise INEX 2: Final Report of the Hungarian Regional Exercise, OECD/NEA 2000
20. A Critical Review of the System of Radiation Protection: First Reflections of the OECD Nuclear Energy Agency's Committee on Radiation Protection and Public Health, OECD/NEA, 2000
21. A Comparison of the Carcinogenic Risk Assessment and Management of Asbestos, Nickel and Ionising Radiation, NEA/CRPPH(2000)11, OECD/NEA, 2000
22. Monitoring and Data Management Strategies for Nuclear Emergencies, OECD/NEA, 2000
23. Methodologies for Assessing the Economic Consequences of Nuclear Reactor Accidents, OECD/NEA, 2000
24. Radiological Impacts of Spent Nuclear Fuel Management Options: A Comparative Study, OECD/NEA, 2000
25. Occupational Exposures at Nuclear Power Plants: Ninth Annual Report of the ISOE Programme, 1999, OECD/NEA, 2000
26. Occupational Exposures at Nuclear Power Plants: Eighth Annual Report of the ISOE Programme, 1998, OECD/NEA, 1999
27. Occupational Exposures at Nuclear Power Plants: Seventh Annual Report of the ISOE Programme, 1997, OECD/NEA, 1999
28. Developments in Radiation Health Science and their Impact on Radiation Protection, OECD/NEA, 1998
29. The Societal Aspects of Decision Making in Complex Radiological Situations, Proceedings of an International Workshop, Villigen, Switzerland, 13 - 15 January 1998, OECD/NEA, 1998
30. Occupational Exposures at Nuclear Power Plants: Sixth Annual Report of the ISOE Programme, 1996, OECD/NEA, 1998
31. Second International Nuclear Emergency Exercise, INEX 2: Final Report of the Swiss Regional INEX 2 Exercise, OECD/NEA, 1998
32. Nuclear Emergency Data Management, Proceedings of an International Workshop, Zurich, Switzerland, 13 - 14 September 1995, OECD/NEA, 1998.
33. ISOE Fifth Annual Report, Occupational Exposures at Nuclear Power Plants - 1969 - 1995, OECD/NEA, 1997.

34. Work Management in the Nuclear Power Industry, A Manual prepared for the NEA Committee on Radiation Protection and Public Health by the ISOE Expert Group on the Impact of Work Management on Occupational Exposure, OECD/NEA, 1997.
35. Agricultural Aspects of Nuclear and/or Radiological Emergency Situations, Proceedings of an OECD/NEA Workshop, Fontenay-aux-Roses, France, 12 - 14 June 1995, OECD/NEA, 1997.
36. ISOE Fourth Annual Report, Occupational Exposures at Nuclear Power Plants - 1969 - 1994, OECD/NEA, 1996.
37. Chernobyl Ten Years On - Radiological and Health Impact, An appraisal by the NEA Committee on Radiation Protection and Public Health, November 1995, OECD/NEA, 1996.
38. ISOE Third Annual Report, Occupational Exposures at Nuclear Power Plants - 1969 - 1993, OECD/NEA, 1995.
39. INEX 1 - An International Nuclear Emergency Exercise, OECD/NEA, 1995.
40. The Implementation of Short-term Countermeasures After a Nuclear Accident (Stable Iodine, Sheltering and Evacuation), Proceedings of a NEA Workshop, Stockholm, Sweden, 1 - 3 June 1994, OECD/NEA, 1995.
41. Probabilistic Accident Consequences Assessment Code - Second International Comparison - Overview Report, A Joint Report by the OECD Nuclear Energy Agency and the Commission of the European Communities, OECD/NEA, 1994.
42. ISOE Second Annual Report, Nuclear Power Plant Occupational Exposures in OECD Countries - 1969 - 1992, OECD/NEA, 1994.
43. Radiation Protection Today and Tomorrow, A Collective Opinion of the Committee on Radiation Protection and Public Health of the OECD Nuclear Energy Agency, OECD/NEA, 1994.
44. ISOE First Annual Report, Nuclear Power Plant Occupational Exposures in OECD Countries - 1969 - 1991, OECD/NEA, 1993.
45. Work Management to Reduce Occupational Doses, Proceedings of a NEA Workshop, Paris, 4 - 6 February 1992, OECD/NEA, 1993.
46. Radiation Protection on the Threshold of the 21st Century, Proceedings of a NEA Workshop, Paris, 11 - 13 January 1993, OECD/NEA, 1993.
47. Off-Site Nuclear Exercises, Proceedings of an NEA Workshop, The Hague, Netherlands, 12 -15 November 1991, OECD/NEA, 1993.
48. Protection of the Population in the Event of a Nuclear Accident, OECD/NEA, 1990.