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English - Or. English

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

**NEA/CRPPH(2001)11/REV1
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ENHANCING PUBLIC HEALTH AND SAFETY

**Contributions of the OECD/NEA Committee on Radiation Protection
and Public Health (CRPPH)
1999-2002**

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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.

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.

This report is the result of the efforts by the Bureau and Secretariat. This report provides a snapshot of the Committee's accomplishments, activities (planned and ongoing) and current status on actions. Because the Committee meets only once per year (generally in March or April), it was decided that each year the Summary Report should cover the accomplishments of the previous 12 months, and should lay out the plans for the coming 12 months. This will then also assist the Committee in its programme of work discussions.

Because this report is the first of its kind, it was felt that it should cover the most significant accomplishments of the Committee from April 1999 through March 2001. Planned activities, it was decided, should include those until March 2002, as approved by the Committee at its March 2001 meeting. In the future, this document will be updated after each annual CRPPH meeting and distributed widely throughout the NEA family.

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Executive Summary

The NEA's Committee on Radiation Protection and Public Health (CRPPH) contributed significantly to the advancement of radiation protection philosophy and application during the period from April 1999 to March 2001. The most important aspects of this work include:

- The completion of the INEX 2 series of regional international nuclear emergency exercises, and the publication of a document summarising policy-level and applicational lessons learned. Many of these lessons have been implemented, by NEA Member countries, the IAEA and the EC, resulting in the improvement of emergency response capabilities world-wide (e.g. web based communications, modern data and information management, etc.).
- The continued expansion of 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., 397 plants worldwide representing 72 utilities in 27 countries, with a demonstrated collective dose reduction of 50% over the last 10 years).
- The analysis of areas where current recommendations concerning the international system of radiation protection could be improved to better address regulator and implementor needs (e.g., the need for internationally accepted limits, the need to include local, stakeholder justification, etc). The wide distribution of the summary publication has contributed significantly to obtaining a broad consensus on evolution towards a new set of recommendations.
- The broad discussion of stakeholder involvement in radiation protection decision making, resulting in better understanding of viable approaches and processes through which radiation protection can be better integrated in modern society to better address decision maker's needs (e.g., define the role of stakeholders, open and inclusive decision-aiding process needed, etc).

Based on these accomplishments, the Committee has set out a new programme of work to carry these important discussions forward. The detailed listing of recent accomplishments and future plans is provided here. A bibliography of recent CRPPH publications is available in Annex 3, and documents are available for purchase or for downloading at WWW.NEA.FR.

Summary of Accomplishments for 1999 - 2001

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

1. Published a report titled: "Experience from International Nuclear Emergency Exercises: the INEX 2 Series".
2. Published a report titled: "Monitoring and Data Management Strategies for Nuclear Emergencies". This strategy is being implemented by many NEA Member countries, the IAEA and the EC, and the WHO and WMO are evaluating the Strategy for implementation.
3. Completed the last of the INEX 2 series of four nuclear emergency exercises with the conduct of the Canadian Regional exercise in April 1999.
4. Published the reports on the Regional INEX 2 exercises in Finland, and Hungary. The summary of the Canadian Regional Exercise is in preparation and will be published by mid 2001.
5. Held a summary meeting in December 1999 to identify the generic lessons-learned from all four INEX 2 Regional Exercises.

6. Developed the INEX 2000 exercise, scheduled for May 2001 in France, that will be co-sponsored by the IAEA, the EC, the WMO, the WHO, and UN-OCHA.
7. Had approved by the CRPPH a new Terms of Reference for the Working Party, to be reviewed in three years.
8. Developed and had approved by the CRPPH a strategy to guide the Working Party.
9. Begun the development of the next generation of international nuclear emergency exercises, INEX 3.

The Information System on Occupational Exposure (ISOE) has:

10. Developed, tested, approved and distributed new ISOE software to allow better access to the ISOE databases.
11. Published the 7th, 8th and 9th ISOE Annual Reports.
12. Modified the ISOE Terms and Conditions to appropriately reflect the management of ISOE by the Joint NEA/IAEA secretariat. Based on the modified Terms and Conditions, the members of ISOE renewed their participation in the programme until 31 December 2003.
13. Introduced an e-mail re-mailing system to facilitate direct communication and experience exchange between ISOE participants.
14. Decided to publish a summary report covering the first 10 years of the ISOE programme. Publication is expected by the spring of 2001.
15. Noted that the focus on ALARA, and on the plant inter-comparisons possible through the ISOE Programme has resulted in falling occupational exposures.

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

16. Published a report titled: "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", and presented this work at the 10th meeting of the International Radiation Protection Association (IRPA-10) in Hiroshima, May 2000.
17. Had its Terms of Reference of the EGRP approved by the CRPPH, and will follow-up on the Critical Review report.
18. Organised and held an open dialogue meeting between the Chairman of the ICRP and representatives of 5 NEA Standing Technical Committees concerning the regulatory viewpoint on the development of new ICRP recommendations.

The Expert Group on Stakeholder Involvement in Radiation Protection (EGSI) has:

19. Published a report titled: "A comparison of Methods of Assessing and Managing the Carcinogenic Risks Associated with Asbestos, Nickel (and Nickel Compounds) and Ionising Radiation", prepared by the previous Working Group on Risk Management.
20. Developed a workshop programme titled: "Better Integration of Radiation Protection in Modern Society", was held in Villigen, Switzerland, from the 23rd to the 25th of January, 2001.

The Expert Group on the Radiological Impacts of Spent Fuel Management Options (PARCOM) has:

21. Published a report titled: "Radiological Impacts of Spent Nuclear Fuel Management Options: A Comparative Study".
22. The NEA Steering Committee forwarded this report to the OSPAR Commission in response to their request to the NEA to study this issue.

The CRPPH, the Bureau and the Secretariat have:

23. Updated the survey of university-level programmes in radiation protection.
24. Performed a survey of national practices in worker compensation has been conducted, and results have been supplied to Members of the CRPPH and the NEA's Nuclear Law Committee.
25. Collected and summarised the results of a short CRPPH questionnaire on current national practices in the unrestricted release of materials from regulatory control for CRPPH Members.
26. Collected and summarised the results of a short questionnaire on national approaches to the setting of radiation protection regulation priorities for CRPPH Members.
27. Established a list-server at the NEA for the collection and exchange of various good practices in radiation protection.
28. Agreed to make an appropriate contribution to resolving the question of how the environment should be protected from ionising radiation.
29. Continued to participate in the NEA's development of a report situating nuclear energy in the context of sustainable development. This report will be submitted to the OECD Ministerial meeting in 2001.

Summary of Planned Activities for 2001 - 2002

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

1. Analyse the results of the INEX 2000 exercise and publish a summary report.
2. Develop plans for INEX 3 exercises following the Working Party's strategy to focus on post-accidental issues such as agricultural countermeasures and compensation after a nuclear accident (Third Party Liability). Prepare a detailed proposal on an INEX 3 Exercise in 2002.
3. Hold a workshop on Third Party Liability Aspects of a severe nuclear accident, using the INEX 2000 exercise results as a realistic case-study discussion (November 2001).

The Information System on Occupational Exposure (ISOE) will:

4. Publish the 10th ISOE Annual Report to facilitate effective management of occupational exposure at nuclear power plants.
5. Publish the summary report on 10 years of the ISOE programme to capture programmatic experience and to begin planning for the Programme's mid-term future.

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

6. Develop a set of recommended improvements based on the work of the WPCD and on the existing ICRP recommendations.

7. Develop a set of case studies to test whether the recommended improvements would result in a better system of radiation protection. This work will feed into the process focused case-study work of the EGSI, and the resulting regulatory consensus will be published, and will also influence the development of new ICRP recommendations.
8. Hold a workshop to discuss the recommended improvements and case study results, and publish a final recommendation document.

The Expert Group on Stakeholder Involvement in Radiation Protection (EGSI) will:

1. Publish a final workshop proceedings and analytical report providing policy guidance to regulators and decision makers for the involvement of civil society in various aspects of radiation protection (e.g., decision making, release of materials and sites, cleanup of contaminated sites) and sharing national experience and examples, and disband.
2. Develop further case studies focusing better understanding of processes for stakeholder involvement in decision making that can result in decisions that are widely accepted. This work will feed into the technically focused case-study work of the EGRP, and the resulting regulatory consensus will be published, and will also influence the development of new ICRP recommendations.
3. Develop the 3rd Villigen Workshop (2003 timeframe).

Enhancing Public Health and Safety
Contributions of the OECD/NEA
Committee on Radiation Protection and Public Health (CRPPH)
Accomplishments 1999 - 2001
Plans for 2001 - 2002

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1. Historical Introduction

The use of radiation has contributed greatly to the advancement and 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, 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:

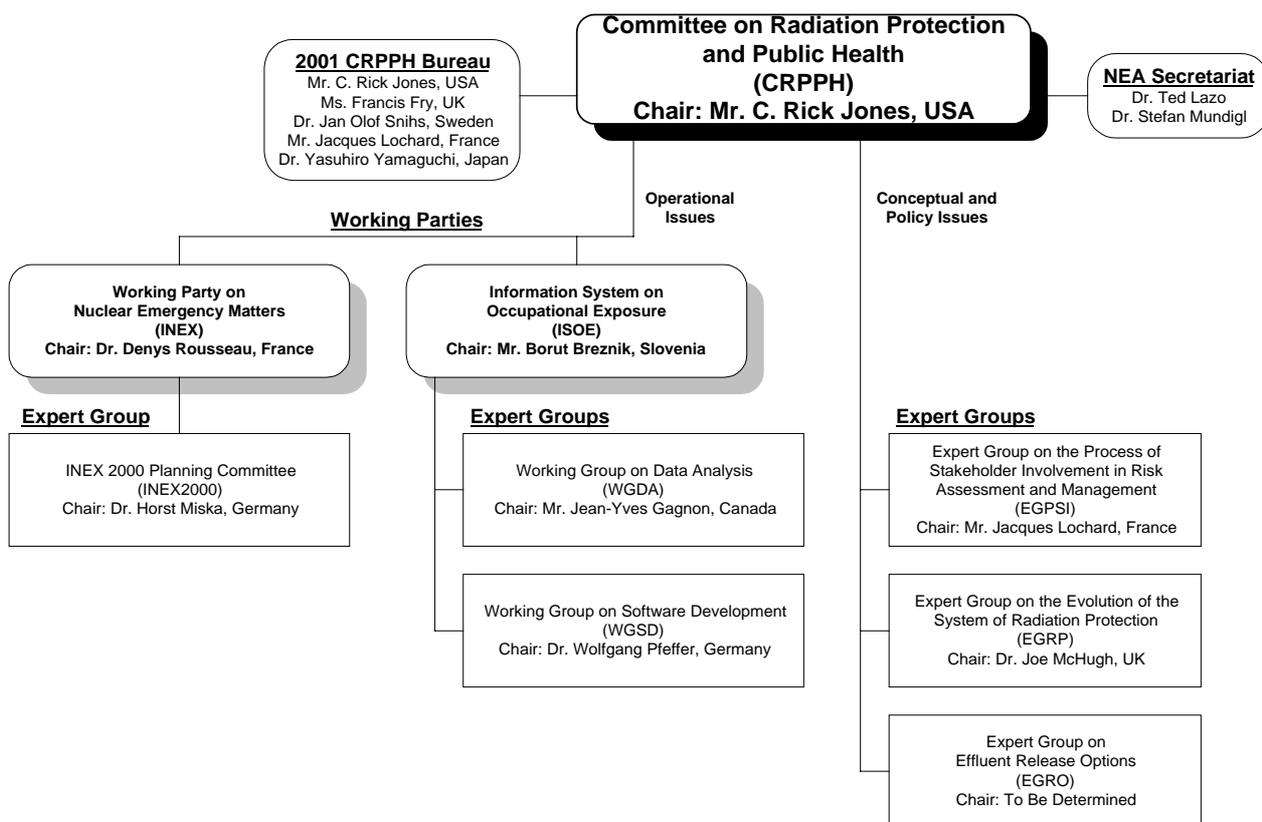
- to provide its Members with a high-level, visible forum for exchange and discussion;
- to seek common understanding of identified issues;
- to advance the "state-of-the-art" in radiation protection theory and practice;
- to advance policies that bring the system of radiation protection more in line 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 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 for more efficient and cost-effective discussion of these important radiation protection issues. Within the NEA, this work has contributed significantly to maintaining the appropriate equilibrium balance 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 first Summary Report lists achievements during the period between the last two meetings of the CRPPH [April 1999 to March 2001], and future plans for the period until the next CRPPH meeting [March 2001 to March 2002]. The current structure of the CRPPH and its sub-groups is shown below.



2. Detailed Working Party and Expert Group Accomplishments (April 1999 - March 2001) and Plans (March 2001 - March 2002)

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 three Expert Groups to enlighten and focus discussions and efforts to promote responsible evolution towards a new system of radiation protection. 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 Activities, Accomplishments and Plans For 1999 - 2002

Working Party on Nuclear Emergency Matters

Working Party Chairman: Dr. Denys Rousseau, IPSN, France
Member, CRPPH

Background

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 series Regional, command-post exercises were held between 1996 and 1999, each with 30 to 35 countries participating simultaneously in real-time. Lessons from these exercises are now fuelling further exploration of this important area.

1999 - 2001 Activities and Accomplishments

1. The Working Party completed its work on a monitoring and data management strategy for nuclear emergencies

Based on experience from the INEX 2 exercises, the Working Party developed and approved a new NEA publication describing a novel, modern approach to performing nuclear emergency environmental monitoring, and to the management of nuclear emergency data. This strategy is now being implemented by many of the NEA's Member countries, as well as by the International Atomic Energy Agency (IAEA) and the European Commission (EC), and being studied for implementation by the World Health Organisation (WHO) and the World Meteorological Organisation (WMO).

2. The Working Party completed the INEX 2 series of exercises.

The last of the four INEX 2 series of regional international nuclear emergency exercises was completed with the Canadian Regional Exercise at the Darlington plant. In December 1999, the exercise summary meeting took place and the experience and lessons learned from all four INEX 2 regional exercises was also discussed and summarised. The summary reports of each of the last three regional exercises, as well as the summary report covering the lessons learned from all four exercises were published during 2000 and early 2001.

3. The Working Party has significantly advanced plans for its next nuclear emergency exercise, INEX 2000.

As a result of experience from the INEX 2 series of exercises, the Working Party has agreed that a new exercise should be developed to operationally test its monitoring and data management strategy, in hopes of finding refinements and improvements, and to begin investigations of the operational implementation of third-party liability conventions. The Working Party has developed a set of exercise objectives, has obtained joint sponsorship of the exercise by the IAEA, the EC, the WHO, the WMO and UN-OCHA, who have each developed their own, organisation-specific exercise objectives. INEX 2000 will be based on a simulated accident at the Gravelines nuclear power plant, in France, in May 2001.

4. The Working Party has developed new Terms of Reference and strategy for its work.

Having completed its previous mandate, to implement the INEX 2 series of exercises, the Working Party developed, and the CRPPH approved, new Terms of Reference during its April 2000 meeting. Based on a request by the CRPPH, the Working Party also developed, and the CRPPH approved, a long-term strategy to guide its work.

2001 - 2002 Planned Activities

1. Conduct and analyse the results of the INEX 2000 exercise and publish a summary report.
2. Develop plans for INEX 3 exercises following the Working Party's strategy to focus on post-accidental issues such as agricultural countermeasures and compensation after a nuclear accident (Third Party Liability). Prepare a detailed proposal on an INEX 3 Exercise in 2002.
3. Hold a workshop on Third Party Liability Aspects of a severe nuclear accident, using the INEX 2000 exercise results as a realistic case-study discussion.

Summary of Activities, Accomplishments and Plans For 1999 - 2002

Information System on Occupational Exposure (ISOE)

ISOE Steering Group Chairman: Mr. Borut Breznik, Krsko NPP, Slovenia

Background

In response to pressures from deregulation structures 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.

1999 - 2000 Activities and Accomplishments

1. The ISOE Programme

As of the end of 2000, occupational exposure data from a total of 397 operating commercial nuclear reactors, 92% of the World's operating commercial nuclear reactors total of 433, and 53 commercial nuclear reactors in cold-shutdown or some stage of decommissioning are included in the ISOE database. These units represent 72 utilities from 27 countries. In addition, regulatory authorities from 26 countries participate in the ISOE Programme.

The Terms and Conditions had been modified in order to reflect that the OECD/NEA and the IAEA forming a Joint Secretariat. These modified Terms and Conditions have been approved by the ISOE Steering Group followed by the renewal of participation of the members of the ISOE Programme. 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.

2. ISOE Analyses and Databases

One of the most important aspects of the ISOE Programme is the 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 ISOE Annual Report for 1999 was published and distributed in 2000. The 2000 report will be published in mid 2001. In addition, the ISOE Technical Centres performed various data analyses, data research and experience exchange that were published as ISOE Information Sheets.

The new ISOE database software includes a merged database called ISOEDAT containing the former ISOE 1 and ISOE 2 data, a new data input module and a modified evaluation software MADRAS. This software package has been completed, quality approved and distributed for data collection and data analysis

3. ISOE ALARA Symposia

In February 2000, the National ALARA Symposium took place in Orlando Florida, followed by the second EC/ISOE Workshop on Occupational Exposure at Nuclear Power Plants, held in Tarragona Spain in April 2000. In addition, the International 2001 ALARA Symposium was held in Anaheim, California in February 2001. The common objective of these workshops was 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.

2001 - 2002 Planned Activities

1. Publish the 10th ISOE Annual Report to facilitate effective management of occupational exposure at nuclear power plants.
2. Prepare the next International ALARA Symposium, April 2002, in Portoroz, Slovenia
3. Publish the summary report on 10 years of the ISOE programme to capture programmatic experience and to begin planning for the Programme's mid-term future.

Summary of Activities, Accomplishments and Plans For 1999 - 2002

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

Since the issuing 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. In 1999, Prof. Roger Clarke, the Chair of the ICRP, published a paper in the open literature suggesting a direction that could be followed for the development of the next set of ICRP recommendations, due in the 2005 - 2010 timeframe, and asking for comments. The CRPPH created the Working Party on Controllable Dose and the Use of Collective Dose (WPCD) in 1999 to begin its own discussion of how the system of radiation protection could evolve in a positive fashion, and to comment on the paper by Professor Clarke. The WPCD report was published in mid 2000, and a follow-up group has been created to carry this work forward.

1999 - 2000 Activities and Accomplishments

1. Developed Critical Review of the System of Radiation Protection

Based on work performed during 1999 and early 2000, the Working Party on Controllable Dose (WPCD) published a report on first reflections by the CRPPH regarding the advantages and disadvantages of the current system of radiation protection, as described in Publication 60 of the International Commission on Radiological Protection (ICRP). This report was also submitted to the ICRP for its consideration, and presented at the 10th Meeting of the International Radiation Protection Association (IRPA-10), in Hiroshima, Japan, in May 2000.

2. Begin work on the future evolution of the system of radiation protection

This WPCD was disbanded upon review and approval of its document by the CRPPH in April 2000. To carry this work forward, the CRPPH created the Expert Group on the Evolution of the System of Radiation Protection (EGRP) to prioritise and investigate the areas identified in the WPCD report as needing further development to better reflect modern societal needs (transparency, a high degree of self-coherency, simplicity, understanding, etc.). The Expert Group began its work in September 2000, and reported progress to the CRPPH at its March 2001 meeting. The Group's work, which will be published in 2002 after approval by the CRPPH, will contribute to the evolution of the system of radiation protection that will be described in new ICRP recommendations in the 2005 to 2010 timeframe. The EGRP's work, which will be published in 2002 after approval by the CRPPH, will represent regulatory consensus on specific applicational needs, and will influence the development of new ICRP recommendations, due in the 2005 to 2010 timeframe.

3. Dialogue with the ICRP on the development of new recommendations

Dialogue meetings were held in with the Chair of the ICRP to discuss the views of the NEA's radiation protection and regulatory experts on this important subject. Meetings took place in April 2000 and in February 2001. Written comments from Members of the CRPPH and other

NEA Standing Technical Committees were collected and passed to the ICPR for consideration. Oral discussions during the two meetings were of value to NEA Committee Members, who better understood the details of the various ICRP proposals, and who felt their direct influence on the ICRP recommendation development process.

2001 - 2002 Planned Activities

1. Develop a set of recommended improvements based on the work of the WPCD and on the existing ICRP recommendations.
2. Develop a set of case studies to test whether the recommended improvements would result in a better system of radiation protection. This work will feed into the process focused case-study work of the EGSI, and the resulting regulatory consensus will be published, and will also influence the development of new ICRP recommendations.
3. Hold a workshop to discuss the recommended improvements and case study results, and publish a final recommendation document.

Summary of Activities, Accomplishments and Plans For 1999 - 2002

Expert Group on Stakeholder Involvement in Radiation Protection (EGSI)

Expert Group Co-Chairman: Mr. Jacques Lochard, IPSN, France
CRPPH Bureau Member

Dr. Serge Pretre, HSK (retired), Switzerland
CRPPH Member (retired)

Background

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 in 1999, the Working Group on Stakeholder Involvement to carry this work forward and to develop the 2nd Villigen Workshop.

1999 - 2000 Activities and Accomplishments

1. Integrate the findings of the Working Group on Risk Management (WGRM) into the discussion of stakeholder involvement

The WGRM completed its work investigating how various types of risks are assessed and managed, and during 2000 published its final report titled: "A comparison of Methods of Assessing and Managing the Carcinogenic Risks Associated with Asbestos, Nickel (and Nickel Compounds) and Ionising Radiation". These technical aspects of risk assessment and management were fed into the WGSI Workshop in Villigen, where the social and stakeholder aspects of a more global approach to risk assessment and management will be addressed.

2. Organise and hold a workshop in the better integration of radiation protection in modern society

Based on the pioneering work of the Working Group on Societal Aspects of Decision-Making in Complex Radiological Situations, the Expert Group on Stakeholder Involvement in Radiological Risk Assessment and Management (EGSI) developed a follow-up workshop. These discussions focused on how governments and other stakeholders interact in the regulation of radiation protection and in making decisions regarding radiation protection actions. The workshop discussed the historical development of the system of radiation protection in the context of society as a whole, investigated the sociological aspects of risk assessment and management in the context of modern society, addressed what regulators, radiation protection experts and other stakeholders expect of an evolved system of radiation protection, and used case studies to draw lessons for the workable development of policy approaches to difficult issues. Discussions focused on the process of decision making, and on the roles and responsibilities of various stakeholders, particularly those of radiation protection experts and regulators.

2001 - 2002 Planned Activities

1. Publish a final workshop proceedings and analytical report providing policy guidance to regulators and decision makers for the involvement of civil society in various aspects of radiation protection (e.g., decision making, release of materials and sites, cleanup of contaminated sites) and sharing national experience and examples, and disband.
2. Develop further case studies focusing better understanding of processes for stakeholder involvement in decision making that can result in decisions that are widely accepted. This work will feed into the technically focused case-study work of the EGRP, and the resulting regulatory consensus will be published, and will also influence the development of new ICRP recommendations.
3. Develop the 3rd Villigen Workshop (2003 timeframe).

Summary of Activities, Accomplishments and Plans For 1999 - 2002

Expert Group on the Radiological Impacts of Spent Fuel Management Options (PARCOM)

Expert Group Chairman: Dr. Seppo Vuori, VTT Energy, Finland
RWMC Member

Background

In June 1994, the Contracting Parties to the Oslo and Paris Conventions for the Prevention of Marine Pollution from Land-Based Sources (OSPAR) adopted Paris Commission (PARCOM) Recommendation 94/9, requesting the NEA to “carry out a thorough review and an assessment of the reprocessing and non-reprocessing options for spent fuel management, *inter alia*, in relation to their effect on the reduction or elimination of discharges of radioactive substances, and to report any progress to OSPAR 1995”. As a result, the Secretary of the Oslo and Paris Commissions, in a letter dated 16th September 1994, asked the NEA Secretariat to bring this request to the attention of the NEA Steering Committee. After discussing the request within the NEA, the NEA Steering Committee agreed that the NEA had the requisite expertise and objectivity to carry out the technical analyses relevant to the request and asked the Secretariat to draw up draft terms of reference for a proposed study and to develop an estimate of resources required to carry it out. The CRPPH, which had been involved in the discussions, agreed to carry out the work, which began in late 1996.

1999 - 2000 Activities and Accomplishments

1. Work completed

During 1999 and early 2000, the Working Party finalised its report on the radiological impacts of two significant spent-fuel management options: direct disposal and recycling with single use of MOX fuel. The report was approved by the CRPPH at its April 2000 meeting, and published. The NEA Steering Committee subsequently agreed, in May 2000, to forward the report to the OSPAR Commission in response to the Commission’s request for an NEA comparative assessment of radiological impacts from discharges into the marine environment resulting from the two spent-fuel management options. The Working Party analysis determined that a decision on direct disposal or recycling can not be based solely on radiological considerations as societal, risk and economic considerations are greater determining factors. With this decision by the Steering Committee, the Expert Group was disbanded, and no follow-up work in this area is envisioned.

5. Other Work of the CRPPH, Accomplishments and Plans For 1999 - 2002

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:

Survey of University-level Programmes in Radiation Protection

As part of the Committee's ongoing commitment to address questions of infrastructure, in 1997 a survey of universities offering degrees in radiation protection was performed and published. This reference document contained information on 71 universities in 19 countries, allowing potential students or visiting faculty to have a broad view of possible universities and study programmes. At that time, it was agreed to update the survey periodically. New results were collected during 2000, and will be published in mid 2001 to show the status of university programmes to inform policy discussions of nuclear infrastructure issues.

Worker Compensation Survey

In late 1999, a Member of the CRPPH asked the Secretariat to perform a short survey of national worker compensation practices within NEA Member countries. The request was approved by the CRPPH Bureau, and many Members responded to this interesting question. The results of the survey have been collected and sent to CRPPH Members, as well as to the NEA's Nuclear Law Committee. A short analysis of the responses, to highlight trends and common themes, was performed and sent to Members of both Committees in early 2001, for their use. The CRPPH is still very interested in this topic, and has asked the Nuclear Law Committee for a more detailed documentation of national practices.

Survey of Current National Practices for the Unrestricted Release of Materials

The CRPPH agreed at its April 2000 meeting that it would be useful to share current national practice and experience in the unrestricted release of materials from regulatory control. To accomplish this, the Bureau, Committee Members from a few countries particularly interested in this topic, and the Secretariat agreed to develop, by correspondence, a short questionnaire to send to CRPPH Members. Results of the survey were compiled, and a short analysis of trends, similarities and differences in approach was performed. The analysis was presented to the CRPPH at its March 2001 meeting. A small group will perform a detailed summary of the survey results, and publish this in mid 2001, following approval, as a CRPPH general distribution document.

Survey of National Approaches to the Setting of Regulatory Priorities in Radiation Protection

The CRPPH also agreed at its April 2000 meeting that the process of setting regulatory priorities in radiation protection is very important. It was thus proposed that a questionnaire could be used to explore how radiation protection priorities are determined and weighted. Recognising that prioritisation is very difficult, a questionnaire was developed and sent to CRPPH Members in late 2000. Results of the survey were compiled, and a short analysis of trends, similarities and differences in approach was performed. The analysis was presented to the CRPPH at its March 2001 meeting. A small group of experts will attempt to see if any further value can be extracted from the survey's results, in co-ordination with the CRPPH Bureau.

List-Server for the Sharing of Good Practices

In developing the CRPPH Programme of Work for 2000 - 2001, many members suggested that the compilation of various types of lessons learned, or the study of various types of practices, would be useful. Through discussion, it was agreed that this should be done electronically, and somewhat informally. For this purpose, a list-server at the NEA was established in late 2000. An inaugural message was sent out to all CRPPH Members asking them to begin documenting their interesting lessons and best practices. In addition to the list server, a new CRPPH Members' web page was established.

Radiation Protection of the Environment

The April 2000 meeting of the CRPPH also discussed the protection of the environment from ionising radiation, and agreed that, although much work in this area was ongoing or just beginning, there was perhaps a valuable contribution that the CRPPH could make. To assure that no steps were taken that would duplicate other efforts, it was agreed that draft Terms of Reference for a group to investigate this area should be prepared only after the IRPA-10 conference and the Villigen meeting. Subsequently, the CRPPH held during its March 2001 meeting, a joint session with the NEA's Radioactive Waste Management Committee (RWMC) on the topic of radiological protection of the environment. Based on these discussions, it was agreed that the CRPPH could usefully investigate the implications of various options for the release of radioactive effluents. An Expert Group will be formed to develop a report for presentation at the 2002 meeting of the CRPPH.

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, a Secretariat paper describing 5 significant issues decommissioning, and proposing co operative 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

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 discussed these issues at its March 2001 meeting and agreed that these areas largely addressed through the existing Expert Group on the Evolution of the System of Radiation Protection (EGRP). The remaining areas, it was agreed, would be addressed by nominating experts to participate in work lead by other NEA Committees.

ANNEX 1
LIST of CRPPH Members
(March 2001)

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

AUSTRALIA

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Mr Stuart PROSSER	Australian Radiation Protection and Nuclear Safety Agency (ARPNSA)
Mr. Daniel WESTALL	Australian Radiation Protection and Nuclear Safety Agency (ARPNSA)

AUSTRIA

Mr. Rainer SCHEFFENEGGER	Bundesministerium für Gesundheit, Sport und Konsumentenschutz
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Mr. Jean-Paul SAMAIN	Agence Fédérale de Contrôle
Dr. Patrick SMEESTERS	Min. de la Santé Publique et de l'Environnement - SPRI
Mr. Pierre STALLAERT	Ministère de l'Emploi et du SSTIN
Dr. L.G. THIERS	Min. de la Santé Publique

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Dr. Anthony WAKER	Atomic Energy of Canada Ltd. (AECL)

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Mr. Zdenek PROUZA	State Office for Nuclear Safety

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Mr. Per HEDEMANN JENSEN	RISO National Laboratory
Mr. Kaare ULBAK	National Institute of Radiation Hygiene

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Mr. Olli VILKAMO	Radiation and Nuclear Safety Authority (STUK)

FRANCE

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Prof. Henri METIVIER	Institut de Protection et de Sûreté Nucléaire (IPSN)
Mr. André OUDIZ	Institut de Protection et de Sûreté Nucléaire (IPSN)
Mr. Jean-Luc PASQUIER	Office de Protection contre les Rayonnements Ionisants (OPRI)
Mr. Denys ROUSSEAU	Institut de Protection et de Sûreté Nucléaire (IPSN)

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Dr. Hans LANDFERMANN	Bundesministerium für Umwelt, Naturschutz und Reaktor-
Dr. Herwig PARETZKE	Forschungszentrum für Umwelt und Gesundheit

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HUNGARY

Dr. Laszlo KOBLINGER Hungarian Atomic Energy Authority

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ANNEX 2
Mandates and Members
Of Working Parties and Expert Groups
(September 2000)

The Working Party on Nuclear Emergency Matters (INEX)

Terms of Reference

Revised: April 2000

Next Review: March 2003

The Expert Group on Nuclear Emergency Matters fulfilled successfully most of the tasks laid down in the Terms of Reference issued in 1993 (in NEA/INEX/DOC(93)2). In addition, the NEA decided to follow the general OECD policy on the hierarchy of Committees, Working Parties, Expert groups etc., and to rename the Expert Group on Nuclear Emergency Matters to be the Working Party on Nuclear Emergency Matters (EMEX).

The goal of this Programme is to improve member country's emergency preparedness and readiness through the conduct of exercises.

The Terms of Reference of the Working Party on Nuclear Emergency Matters 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 and INEX 2, 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.

INEX Members**CANADA**

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The Information System on Occupational Exposure (ISOE)

Terms and Conditions

Revised: April 2000

Next Review: March 2004

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.

ISOE MEMBERS

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Mr Vovik ATOYAN	Armenian Nuclear Power Plant
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Mr. Christian BREESCH	S.A. ELECTRABEL
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Mr. John MOARE	WANO - Paris Centre
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The Expert Group on the Evolution of the System of Radiation Protection (EGRP)

Terms of Reference:

Created: April 2000
Next Review: March 2002

At its 58th Meeting in April 2000, the CRPPH held extensive discussions of what was, at that time, called the concept of controllable dose. Discussion included a presentation by Professor Roger Clarke, the ICRP Chairman, on his current thinking concerning the system of radiation protection and its evolution from his “controllable dose” concept. This was followed by a general discussion by the Members of the CRPPH expressing their views on Professor Clarke’s ideas as well as expressing their own ideas on the system’s evolution. This was then followed by a presentation by the Secretariat of the report by the Working Party on Controllable Dose and the Use of Collective Dose. These very interesting discussions resulted in the Working Party’s paper being approved by the CRPPH, and in the agreement that a new Expert Group should be formed to continue these discussions. Such follow-up should wait, it was agreed, for additional input from various professional radiation protection societies to be presented in a session on controllable dose during the IRPA-10 conference, which took place in Hiroshima in May 2000.

The CRPPH felt strongly that the development of a new, more broadly understood and accepted system of radiation protection should be the result of a combination of evolutionary thinking (starting from the present system) and new thinking (such as that provided by Professor Clarke). These two independent paths should eventually merge into single approach. It was further felt that any new ideas or approaches should be thoroughly “road-tested” to assure that they will in fact do more good than harm.

Based on the above, the CRPPH felt that the new Expert Group should begin where the Working Party left off. The areas that the Working Party suggested could be improved should be prioritised, elaborated in more detail and “road tested” in a hypothetical, then real case study fashion.

These considerations suggest that the new Expert Group should have Terms of Reference along the following lines. The Expert Group is invited to consider these draft Terms during its first meeting, and to finalise them for later approval by the CRPPH Bureau.

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 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.

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Terms of Reference:

Created: April 1999
Next Review: March 2001

As can be seen every day in national and international news, stakeholder groups are becoming increasingly interested in government decisions, policies and regulations. Through legal, political and social movement, such groups are more and more involved in the various processes of policy and decision making, and governments are gradually becoming aware of their need to address these constituencies. In this context, stakeholders include the public, industry, non-governmental organisations (NGO's) such as public and environmental interest groups, regional and local governments, and even other national governmental organisations.

Such stakeholder forces are felt significantly within the nuclear industry, and many efforts are currently underway to better understand and appropriately address the needs of these interested stakeholder groups. It is in this context that several of the Standing Technical Committees within the OECD Nuclear Energy Agency are interested in these issues. For example, after a year of planning activities, the CRPPH Working Group on the Societal Aspects of Decision Making in Complex Radiological Situations held a workshop on this subject in January 1998. The CRPPH Working Group on Risk Management also addressed these issues.

During its April 1999 meeting, the CRPPH agreed that the work of the WGSA and the WGRM should be built upon, specifically in the area of stakeholder involvement. It was thus decided that a Working Party should be established to develop a workshop to discuss these issues. The Terms of Reference for this Working Party are as follows:

1. The Working Party will identify the most significant questions and concerns with regard to stakeholder involvement in risk assessment and management. Using the work of the WGSA and the WGRM, the Working Party should focus on the stakeholder involvement concerns as they relate to the rehabilitation of lands contaminated by accidents or by past practices, and to the reconstruction of doses to exposed populations.
2. The Working Party will develop a workshop programme to discuss the identified issues. The objective of the workshop will be to better understand the issues, and to exchange experience and lessons learned, illustrated through the use of case studies. The workshop should take place in late 2000 or early 2001.
3. Because the topic of stakeholder involvement is very broad and many of the issues are common to many aspects of nuclear power, the Working Party will co-ordinate its activities with other standing technical committees of the NEA, such as the RWMC, the CNRA, and the NDC.
4. Upon completion of the workshop, the Working Party will assist the Secretariat in the preparation of a proceedings document, including its summary, conclusions and recommendations.
5. The Working Party will report periodically to the CRPPH. The Terms of Reference of the Working Party shall be considered fulfilled, and the Working Party will be disbanded, once the workshop proceedings have been published.

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Expert Group on the Radiological Impacts of Spent Fuel Management Options (PARCOM)

Terms of Reference:

Created: April 1995

Disbanded: April 2000

These Terms of Reference for the ad hoc Expert Group of phase II of the study were developed on the basis of the general objectives as endorsed by the Steering Committee in 1995, and reproduced in Annex 1 of document [NEA/SAN/DOC(96)2].

Objective of the Study

In response to the OSPAR request to the NEA

“... to carry out a thorough technical review and an assessment of the reprocessing and non-reprocessing options for spent fuel management, inter alia, in relation to their effect on the reduction or elimination of discharges of radioactive substances,

the Steering Committee decided to launch a study with the objectives

- to compile scientific and technological data and information relevant to the PARCOM request; and
- to analyse them and present findings with scientific and technological interpretations to assist discussions by the PARCOM Member countries.

Scope

The study should cover the radiological effects of all steps of the reprocessing and non-reprocessing options, including, for example, radiological effects of increased uranium mining and long-term storage and disposal of spent fuel, as part of radioactive substances from all sources may finally be transported to the marine environment. The term “radiological effects” mainly applies to health effects to man resulting from radiation, although information on the environmental impact of radionuclides introduced in the marine environment, as available in the CRESO reports, can also be used for the study.

Ad hoc Expert Group

An ad hoc Expert Group will be set up in Spring 1997 under the CRPPH to carry out a thorough review and a systematic comparison of the radiological effects of the two options and to give scientific and technological interpretation of the results. The starting point of the work of the ad hoc Expert Group will be a compilation of data and information carried out by a consultant in 1996.

The report of the ad hoc Expert Group will be reviewed by the Committee and other NEA Standing Committees will be duly invited to contribute to the study, as appropriate.

The report of the ad hoc Expert Group will be completed in 1998 and submitted to the Steering Committee in Spring 1999.

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ANNEX 3
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2. "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
3. "Second International Nuclear Emergency Exercise, INEX 2: Final Report of the Finnish Regional INEX 2 Exercise", OECD/NEA, 2000
4. "Monitoring and Data Management Strategies for Nuclear Emergencies", OECD/NEA, 2000
5. "Methodologies for Assessing the Economic Consequences of Nuclear Reactor Accidents", OECD/NEA, 2000
6. "A comparison of the Carcinogenic Risk Assessment and Management of Asbestos, Nickel and Ionising Radiation", NEA/CRPPH(2000)11, OECD/NEA, November 2000
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