Committee on Radiation Protection and Public Health (CRPPH)

The objective of the CRPPH is to facilitate the understanding and implementation of a system of radiological protection that will address regulator and practitioner needs, and that more appropriately positions scientific radiological protection considerations within the broader context of social judgement and risk governance.

Highlights

- The CRPPH continued its active participation in the development of draft text for the new international Basic Safety Standards, which are being developed under the auspices of the International Atomic Energy Agency (IAEA) and co-sponsored by the NEA and several other international organisations.
- The 2nd Science and Values in Radiological Protection workshop took place in France in December, continuing the exchange of experience in the formation of policy and regulatory judgements in radiological protection.
- A report on *Strategic Aspects of Nuclear and Radiological Emergency Management*, addressing lessons learnt from the INEX-3 emergency exercise on recovery, countermeasures and decision making, was completed and submitted for approval before publication. The development of a new exercise series, INEX-4, was initiated.
- A report on work management in the nuclear power industry was published as part of the activities of the Information System on Occupational Exposure (ISOE).

Evolution of the international system of radiological protection

Following the significant efforts that the CRPPH expended in contributing to the development of the new International Commission on Radiological Protection (ICRP) general recommendations issued in *Publication 103,* the Committee has turned its attention towards their application. A key aspect of this has been the preparation of new draft text for the *International Basic Safety Standards for Protection against Ionising Radiation and for the Safety of Radiation Sources* (BSS). The NEA is a co-sponsoring organisation of the BSS, and as such has endeavoured to contribute the experience of its member country organisations to the development of the BSS. This has included the participation of NEA-nominated experts and NEA secretariat staff in a considerable number of drafting meetings. This extensive work now seems to be nearing its completion, with the draft BSS planned to be sent for broad IAEA member state consultation in early 2010. Comments and suggestions from the NEA on various BSS drafts, including the latest, have been appreciated by the IAEA and other co-sponsoring organisations.

Radiological protection science and policy judgement

Many radiological protection questions and issues seem to be increasingly addressed as public health issues rather than simply as "radiological protection" issues. The CRPPH has taken a public health perspective on four radiological protection issues, addressing radon, justification of medical exposures, decision making based on new scientific evidence, and management of individual differences. When making radiological protection decisions, the central role of optimisation in the new system of radiological protection and the shift to a public health perspective come together in the context of judgement.

In co-operation with the French Radiological Protection and Nuclear Safety Institute (IRSN) and the Nuclear Protection Evaluation Centre (CEPN), the CRPPH organised a 2nd Science and Values in Radiological Protection workshop, near Paris, France. The workshop, which was sponsored by the French Ministry of Ecology, Energy, Sustainable Development and Territorial Development (MEEDAT), examined the challenges posed by growing awareness of radiation exposure from radon, increasing medical exposures and emerging radiological risks of cardiovascular diseases. Newly published scientific data and more clearly identified trends in these areas have suggested that each of these three topics may challenge governments to reassess their current approaches and to consider alternatives. The objectives of the workshop were to better understand how science and associated uncertainties can be addressed in combination with values, and how to achieve sustainable decisions.

Stakeholders and radiological protection

The CRPPH has been a leader in studying the issue of stakeholder involvement in radiological protection decision making, and has shown that such involvement can significantly improve the quality and sustainability of radiological protection decisions. The Committee began developing a short report summarising its work in this area in order to document the evolution of thinking, and to serve as a reference point for further work. In parallel, the CRPPH also

studied how governmental radiological protection organisations have reacted to the challenges of stakeholder involvement, and how they may have adapted as a result. A specific survey focusing on how emergency management organisations have structurally and procedurally evolved to best incorporate stakeholder input into their decision-making processes has been launched to support a workshop on stakeholder involvement in post-emergency management, to be held in Washington, DC, in October 2010. The workshop will focus on exchanging experience and identifying issues related to how governments and emergency management organisations might better involve stakeholders in emergency preparedness and longer-term consequence management.

Operational radiological protection from a policy perspective

A new study of radiological protection principles and criteria for designing new nuclear power plants was completed and approved by the CRPPH for publication. This work on new build will be continued with a more detailed study of the operational use of dose constraints in nuclear power plant exposure management. To complement this, the Committee is also pursuing work on the management of effluent releases from nuclear power plants which focuses on the use of best available techniques (BAT) to control liquid and gaseous effluents, and involves collaboration between regulators, utilities and reactor vendors.

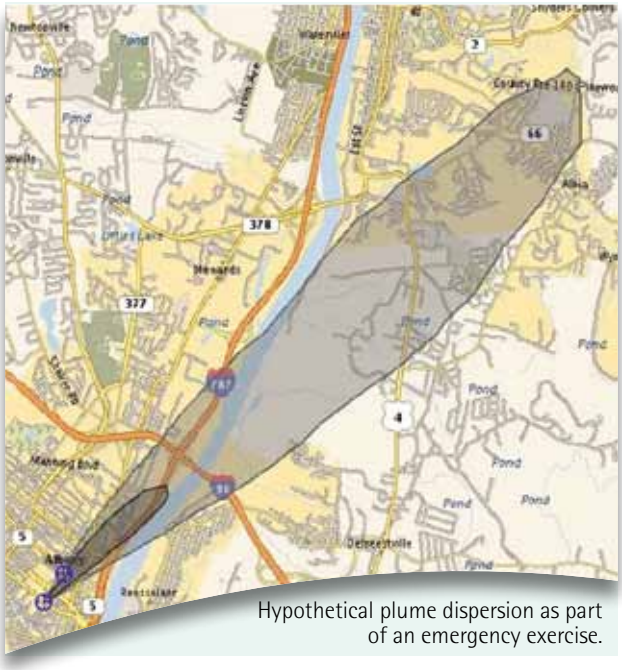
In addition, the Committee launched a study on the changes in the ICRP's protection philosophy over the last decades, as manifested in its general recommendations issued between 1976 and 2007 (Publications 26, 60 and 103), in order to better understand the impacts that this evolution has had on regulation and implementation.

Radiological protection of the environment

Since the ICRP issued its *Publication 91* on the radiological protection of non-human species in 2004, the CRPPH has followed the numerous developments in this area. Several significant projects to develop tools and methodologies to assess potential radiological effects on non-human species have been undertaken. The CRPPH is monitoring these national and international activities and commissioned an ad hoc expert group to produce a short report on these ongoing activities, including for each the objectives, deliverables and timeline. This information will be used to identify gaps, if any, that could be filled through CRPPH work, and any additional work that would facilitate national approaches to the radiological protection of the environment.

Nuclear emergency and recovery management

Decision-making processes as part of consequence management were investigated in the 3rd International Nuclear Emergency Exercise series (INEX-3). Based on the outcomes of the post-exercise evaluation workshop, the CRPPH



Tele Atlas and LLNL

Hypothetical plume dispersion as part of an emergency exercise.

Working Party on Nuclear Emergency Matters (WPNEM) created expert groups to address key needs in consequence management in the areas of post-emergency countermeasures, good practices in decision making and possible implications of nuclear indemnification. Reports from these activities were completed in 2009. Planning also began for the INEX-4 exercise, which will focus on issues in consequence management and transition to recovery following a hypothetical malicious dispersal of radioactive materials in the urban environment. This series of national-level exercises is planned for the last half of 2010, to be followed by an evaluation workshop in 2011.

Occupational exposure at nuclear plants

Occupational exposure at nuclear power plants is an important issue for the CRPPH, and the sharing of operational lessons and experience, as well as the collection, analysis and exchange of occupational exposure data continues to be addressed by the Information System on Occupational Exposure (ISOE), an NEA joint project. In support of CRPPH efforts to facilitate the improvement of members' operational radiological protection capabilities, an ISOE report was published on work management to optimise radiological protection in the nuclear power industry, updating a landmark 1997 publication on this topic. The ISOE also made important steps in meeting end-user needs by completing work to migrate its data collection and analysis resources to the Internet. Further details on the ISOE programme are provided on page 34.

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