

# Radiological Protection

## Committee on Radiation Protection and Public Health (CRPPH)

*The CRPPH is contributing to the definition of new directions and approaches for the international system of radiological protection in order to achieve a clearer and more streamlined result. The ultimate objective is to achieve a system that will better address regulator and practitioner needs, and will more appropriately position scientific radiological protection considerations within the broader context of social judgement and risk governance.*

### Development of a new system of radiological protection

Building on two of its earlier reports (*The Way Forward in Radiological Protection* and *A New Approach to Authorisation in the Field of Radiological Protection*), the CRPPH has been developing its views on how the recommendations and concepts emerging from the International Commission on Radiological Protection (ICRP) could be interpreted and applied in regulation and application. The Committee has begun elaborating a broad, holistic approach to radiological protection that would subject all sources and exposure situations to some level of regulatory control, setting aside from further consideration only a very few situations (i.e. K-40 in the body, cosmic radiation at sea level) that are intrinsically unamenable to control. At the same time the Committee has proposed to use a graded approach appropriate for the level of risk being considered.

The value and innovation of this approach comes primarily from two aspects. First, all sources and exposure situations are treated in the same fashion, using optimisation below a pre-determined dose constraint. This results in a system that is simple, consistent and coherent and avoids the need to explain and justify, as previously necessary, why some regulatory "levels" were not to be passed (limits), and others required no actions until they

were passed (action levels, intervention levels). Second, this approach has tried to avoid the use of terminology that has been deemed confusing in the past, such as practice, intervention, exclusion, exemption and clearance. It is hoped that by addressing all situations in the same conceptual framework, this single approach will be more generally applicable and coherent as well as more easily and transparently applied.

### NEA/ICRP fora

In addition to providing the ICRP and the international radiological protection community with its proposed approaches, the CRPPH has developed a mutually fruitful relationship with the ICRP. The 1<sup>st</sup> NEA/ICRP Forum (Taormina, 2002), and the 2<sup>nd</sup> NEA/ICRP Forum (Lanzarote, 2003), enabled a privileged exchange of practical and regulatory views on draft conceptual framework material. This process has allowed CRPPH members to better understand the ICRP's proposed approaches, and has allowed the ICRP to interact with key stakeholders to fine-tune its new recommendations and facilitate their application. For example, as a result of the 2<sup>nd</sup> Forum in Lanzarote, the ICRP is considering keeping the concepts of dose limits, ALARA (as low as reasonably achievable) and collective dose in its new recommendations.

The NEA will continue its work in this area, publishing the proceedings of the Lanzarote workshop as well as a policy-level summary of the workshop's results. In addition, the CRPPH will perform another in-depth assessment of possible implications of the next draft ICRP general recommendations document that is expected to be available following the IRPA-11 Congress in May 2004. Finally, a third NEA/ICRP Forum will be organised following the publication of the new ICRP recommendations and will focus on implementation aspects.



- The possible implications of two key draft ICRP framework documents were analysed, based on input from all NEA standing technical committees.

- The 2<sup>nd</sup> NEA/ICRP Forum achieved wide-ranging stakeholder consensus on key regulatory concepts that should be kept and clearly articulated in new ICRP recommendations.

- The 3<sup>rd</sup> "Villigen Workshop" demonstrated the value of, and need for, stakeholder involvement in certain situations to achieve sustainable decisions. Several broadly applicable policy-level implications, lessons and processes were identified.

- An assessment of effluent management was published, describing

current state-of-the-art practice, and identifying and discussing key policy issues.

- The ISOE system continued to expand as well as to consolidate its efforts in order to facilitate data analysis and management, and the exchange of information, experience and lessons learnt.

## Stakeholder participation in decision making involving radiation

The NEA has long been exploring the details and implications of stakeholder participation in decision-making processes. The most recent focus of this work was the 3<sup>rd</sup> "Villigen Workshop", which took place in October 2003 and clearly demonstrated the value of and need for stakeholder involvement to achieve accepted decisions in certain situations. The policy-level implications were seen to have almost universal applicability. The published results of the workshop will help policy makers and regulators to better understand how stakeholder participation can lead to better decisions, the possible implications of such participation, and the processes that can be used to implement stakeholder participation. For a fuller description of NEA work in this area, see the section on "Nuclear Energy and Civil Society" (page 34).

## Occupational radiological protection

Through its Information System on Occupational Exposure (ISOE), a co-operative programme supported jointly with the IAEA, the CRPPH has further enhanced its efforts to facilitate data analysis and management, and the exchange of information, experience and lessons in this area. In 2003, various ISOE elements were consolidated, particularly the data input and data analysis software, but also the ALARA communication network. As a result of an in-depth evaluation of the programme and its working procedures, it was decided that ISOE should offer new products, such as an ISOE newsletter and selected web products, and further promote the use of the ALARA communication network.

## Nuclear emergency exercises

CRPPH work on international nuclear emergency management exercises (INEX 2, INEX 2000) and on

nuclear emergency management more generally has demonstrated the importance of communication, facilitating national and international improvements. A report summarising policy lessons from the INEX 2000 exercise will be published in 2004.

Building upon this background, work during 2003 turned to the study of later nuclear emergency phases and the preparation of the INEX 3 exercise programme, which will focus on the more generic aspects of dealing with widespread contamination. This will include agricultural countermeasures, as well as so-called "soft" countermeasures dealing with travel, trade and tourism issues. INEX 3 will be a table-top exercise, using a contamination "footprint" as the basis for a decision-making scenario, and will be held in the 2005-2006 time frame. Lessons and experience from these studies are also of relevance to other situations, such as terrorist attacks with radiological materials.

## Management of large-scale systemic risks

NEA experience in radiological protection, risk assessment and nuclear emergency management made an important contribution to two OECD reports addressing risk from a broad cross-cutting perspective. The reports were issued under the titles of *Emerging Risks in the 21<sup>st</sup> Century* and *Lessons Learned from Large-scale Disasters*.



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