INSTITUTE OF PHYSICS PUBLISHING JOURNAL OF RADIOLOGICAL PROTECTION

J. Radiol. Prot. **25** (2005) 209–213 www.iop.org/Journals/jr

News and information

The Chernobyl Forum: update

As previously reported in this journal (2003 *J. Radiol. Prot.* **23** 209–10), eight United Nations organizations (IAEA, FAO, UNDP, UNEP, UN-OCHA, UNSCEAR, WHO and The World Bank), as well as the competent authorities of Belarus, the Russian Federation and the Ukraine, established the Chernobyl Forum at a meeting at the IAEA's Headquarters in Vienna in February 2003. The Forum was initiated with a view to contributing to the implementation of the new United Nations strategy launched in 2002.

The Forum was established as a series of managerial, expert and public meetings in order to generate authoritative consensual statements on the health effects attributable to radiation exposure arising from the Chernobyl accident and the environmental consequences induced by the released radioactive materials. It was also intended to provide advice on remediation and special health care programmes, and to suggest areas where further research is required.

Since the Forum was launched, three political level managerial meetings, chaired by Dr Burton Bennett, RERF, Japan, were held in Vienna aiming at monitoring and directing the Forum's operation. Seven meetings of the Forum's 'Expert Group on Environment' chaired by Dr Lynn Anspaugh, USA, were also held in Vienna. This group was established with the aim of summarising the impact of the Chernobyl accident on the environment and environmental remediation experience. During the same time period, WHO organised four meetings in Geneva of the Forum's 'Expert Group on Health', which was established to summarise human health effects of the Chernobyl accident and experience of relevant health care. In total, about seventy recognised experts from eleven countries and six relevant international organizations, including the three most affected countries (Belarus, the Russian Federation and the Ukraine), participated in the Forum assessment of the accident's environmental and human health consequences. In all cases the scientists from the international community and the three affected countries have been able to reach a broad consensus in the preparation of their respective draft documents.

By the end of 2004, two comprehensive draft reports reflecting the current level of knowledge regarding about twenty years of post-Chernobyl studies were prepared by the two aforementioned expert groups. These reports contain summaries of scientific data, conclusions from particular international and national studies, forecasts of future changes of radiation conditions in the affected areas and expected radiation-induced morbidity of workers and the general public. The reports also include recommendations for further practical activities, such as environmental remediation and special health care, and for future research. In February 2005 both reports were distributed to all of the Forum participants, the three affected countries, the UN organizations and individual experts for comment.

Items for inclusion in this section are welcomed and should be sent to the Deputy Editor, Jim Gray, at the address given at the front of this issue.

0952-4746/05/010209+05$30.00

During the last Managerial Forum Meeting held at the IAEA's Headquarters in Vienna on 18–20 April 2005, both reports were considered in detail by representatives of the three affected countries and the eight UN organizations participating in the Forum. The meeting decided by consensus, *inter alia*:

- to approve the Forum's technical reports on environmental and health consequences of the Chernobyl accident, as well as remediation and health care programmes prepared by the expert groups in 2003–2004 with amendments discussed during the meeting;
- to consider the approved reports with amendments as a common position of the Forum members, i.e., of the eight UN organizations and the three most affected countries, regarding environmental and health consequences of the Chernobyl accident as well as recommended future actions, i.e. as consensus within the United Nations system.

In order to widely publicise the Forum's findings and recommendations, and to inform governments, the international scientific community and the general public, the Chernobyl Forum is now organising, through the IAEA, an International Conference entitled 'Chernobyl: Looking Back to Go Forwards', being held in Vienna on 6 and 7 September 2005. The Forum also aims to disseminate its findings widely through UN organizations and the mass media.

More information can be obtained from the following websites:

- http://www.iaea.org/NewsCenter/News/2004/consequences.html
- http://www-ns.iaea.org/meetings/rw-summaries/chernobyl_forum.htm
- http://www-pub.iaea.org/MTCD/Meetings/Announcements.asp?ConfID=141

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National Dose Assessment Working Group (NDAWG)

The Environment Agency (EA), the Food Standards Agency (FSA), the Health and Safety Executive's Nuclear Installations Inspectorate (NII) and the National Radiological Protection Board (NRPB—now the Radiation Protection Division of the Health Protection Agency) have jointly established the National Dose Assessment Working Group (NDAWG). This initiative resulted from a recommendation in the consultative exercise on dose assessments (CEDA) organised by the FSA.

The aim of NDAWG is to bring together people and organisations with responsibility for, and/or an interest in, the assessment of radiation doses to the public from the operation of the nuclear industry and from minor users of radioactivity. The main focus of the work of NDAWG will be past, present and future authorised discharges and direct radiation; initially the Group's scope will not include accidents or solid waste disposal.

Membership of NDAWG is by invitation and is drawn from regulators and Government agencies, industry, local authorities, non-Governmental organisations and specialists. Dr John Cooper, Deputy Director at NRPB, is the chair of NDAWG and NRPB also provides the secretariat. A steering group has been set up to oversee the technical aspects of the running of NDAWG.

The terms of reference for the working group are:

- facilitating the exchange of data and views between all parties on assessment methodologies;
- advancing the understanding between groups who are likely to have differing objectives and views on dose assessment methods;
- meeting on a regular basis (every 6 months) to discuss matters of mutual concern, and developments arising out of research, case histories (e.g., recent consultations) or changes in government policy;
- identifying, discussing and evaluating research which will progress dose assessment methods;
- initiating debate beyond the group on key issues, as necessary (for example via the Society for Radiological Protection);
- keeping abreast of international developments on dose assessment methodologies, and to provide feedback to the appropriate UK authorities for input into EU bodies;
- facilitating the development of coherent transparent methods for the assessment of radiation dose to the public from all pathways which arise as a result of the operations at nuclear and non-nuclear sites.

A website has been set up (www.ndawg.org) to provide information on the work of the group. It includes a list of members, terms of reference, meeting papers and minutes. The work of the group will be published as scientific papers when appropriate. In addition periodic papers have been published on the website. The published papers to date include:

- Use of measurements in assessing doses to the public: a discussion paper—NDAWG/1/2004.
- Radiological assessment exposure pathways checklist (common and unusual)—NDAWG/2/2004. There is a dedicated email address so that anyone, including members of the public may comment upon this paper, for example to point out additional pathways.
- NDAWG comments on the ICRP draft 2005 recommendations—NDAWG/3/2004.
- An overview on uncertainty in radiological assessments—NDAWG/1/2005.
- Assessment of compliance with the public dose limit. Principles for the assessment of total retrospective public doses—NDAWG/2/2005.

A number of sub-groups have been set up by the working group to consider particular issues and report back to NDAWG. Membership of sub-groups can involve people who are not members of NDAWG. These are:

- *Retrospective assessment of doses*—this sub-group has reviewed the EA funded study to develop a methodology to assess population doses from multiple sources and exposure pathways of radioactivity, and has looked at the use of measurement data. A report on principles for the assessment of total retrospective public doses has recently been published on the NDAWG website. This sub-group has completed its current work programme and so is in abeyance.
- *Uncertainty and variability in dose assessments*—this sub-group has reviewed the FSA's use of 'possible' and 'probable' dose. It has considered the issues and studies relating to uncertainty and variability in dose assessments, including the availability of input data, compliance with dose limits and constraints and how probabilistic results can be presented to the public. The first of two reports from the sub-group has been published (NDAWG/1/2005).
- *Habit data and critical groups*—this sub-group has been considering the use of habit data in assessing individual doses and in defining critical groups. The initial emphasis is on retrospective assessments (doses from discharges and direct shine) but with prospective assessments to be considered at a later date.

- *Modelling*—the aim of this new sub-group is to consider issues relating to modelling the transfer of radionuclides through the environment, as part of the assessment of the radiation doses from routine releases of radionuclides.

R Kowe

HPA-RPD advice on practical implementation of EMF exposure guidelines

In 2004, NRPB recommended that the UK adopt the international exposure guidelines for EMFs published by ICNIRP, and the UK Government accepted that recommendation. The recommendation and the accompanying review of scientific evidence, however, totalled 250 pages. The Health Protection Agency Radiation Protection Division (HPA-RPD) have now published on their website an information sheet, providing 'further clarification' on their advice and 'practical approaches to demonstrating compliance'.

The two obvious questions about any proposed guidelines are: What is the limit? And what happens if it is exceeded? The ICNIRP basic restriction (for the public at power frequencies) is 2 mA m^{-2} on the induced current in the central nervous system, a quantity that cannot be measured directly. In practice, the quantity that is measured is the external electric or magnetic field. The 2004 recommendations contained results from numerical modelling by one of NRPB's scientists, Peter Dimbylow, that suggested that the basic restriction corresponds to fields of 9.6 kV/m and 360 μT in an adult male. A recent further paper by Dimbylow extends the work to adult females, which lowers the electric-field value to 9.2 kV/m. Accordingly, HPA now advise that uniform fields less than 9 kV/m or 360 μT should be taken as complying with the basic restriction.

What happens if the basic restriction is exceeded was implicit in the NRPB's 2004 review of the science, but is now spelled out by HPA:

> '...the basic restrictions are designed to limit the electric fields and current densities induced in [the brain and nervous system] so as not to adversely affect their normal functioning. The adverse effects that might occur ... represent potential changes to mental processes such as attention and memory, as well as to regulatory functions within the body. Thus the basic restrictions should not be regarded as precisely determined values below which no adverse health effects can occur and above which clearly discernible effects will happen. They do, however, indicate an increasing likelihood of effects occurring as exposure increases above the basic restriction values.'

Application of ICNIRP Exposure Guidelines for 50 Hz Power Frequency Fields, http://www.hpa.org.uk/radiation/understand/information_sheets/icnirp_exp_guidelines.htm

J Swanson

Radiation committee confirms conclusions of North Wales childhood leukaemia studies

The National Public Health Service for Wales has welcomed a statement by the Committee on Medical Aspects of Radiation in the Environment (COMARE) on studies into childhood leukaemia in North Wales.

A study into childhood leukaemia, brain tumours and retinoblastoma near the Menai Straits by the Welsh Cancer Intelligence and Surveillance Unit (WCISU) showed there was no evidence to link the diseases with nuclear discharges. This was supported by a report on Childhood Cancer Incidence in Gwynedd and Anglesey by the National Public Health Service for Wales (NPHS Wales). Both reports were responding to claims contained in a report prepared by Green Audit, an environmental consultancy and review organisation.

The COMARE statement confirms that the analysis and methodology used by WCISU and the interpretation given by NPHS Wales was appropriate. It also stated that: 'The Green Audit analyses have several significant weaknesses and cannot be regarded as reliable.'

COMARE has also recommended, subject to ethical and practical considerations, that further work is undertaken to investigate the apparent discrepancy in the number of cancer cases identified. WCISU is happy to explore this issue.

Doses from Computed Tomography (CT) Examinations in the UK—2003 Review, NRPB-W67

A new UK computed tomography (CT) survey has provided a useful snapshot of patient doses for 2003. Scan details for nearly 850 standard protocols and 2,000 individual patients relating to 12 common CT examinations on adults and children were collected by questionnaires voluntarily submitted by a widely-distributed sample of 126 scanners.

Recent NRPB Publications (February–April 2005)

Documents

Protection of On-site Personnel in the Event of a Radiation Accident
http://www.hpa.org.uk/radiation/publications/documents_of_nrpb/abstracts/absd16-1.htm

Guidance on the Application of Dose Coefficients for the Embryo and Fetus from Intakes of Radionuclides by the Mother
http://www.hpa.org.uk/radiation/publications/documents_of_nrpb/abstracts/absd16-2.htm

Generalised Derived Limits for Radioisotopes of Hydrogen, Carbon, Phosphorus, Sulphur, Chromium, Manganese, Cobalt, Zinc. Selenium, Technetium, Antimony, Thorium and Neptunium
http://www.hpa.org.uk/radiation/publications/documents_of_nrpb/abstracts/absd16-3.htm

Reports

Doses from Computed Tomography (CT) Examinations in the UK—2003 Review
http://www.hpa.org.uk/radiation/publications/w_series_reports/2005/nrpb_w67.htm

For further information on additions and developments to the NRPB website, see http://www.nrpb.org