



16th Meeting of the Inter-Agency Committee on Radiation Safety (IACRS)

12th -13th May 2011, ILO Headquarters, Geneva, Switzerland

Meeting Summary Record

1. Welcome Remarks by the ILO

The 16th Meeting of the Inter-Agency Committee on Radiation Safety (IACRS) was hosted by the International Labour Organization (ILO) at its Headquarters in Geneva. Dr Shengli Niu, Representative of the ILO, chaired the Meeting. The agenda and list of attendees are attached in Annexes 1 and 2 to this summary record. The documents and presentations associated with the Meeting are available on the IACRS website and the ILO SafeWork website.

Mr Francois Eyraud, Director, Labour Protection Department, on behalf of Mr Assane Diop, Executive Director of Social Protection Sector of the International Labour Organization, welcomed the members of IACRS. He noted that the recent events in Japan had reminded the world of nuclear and radiological safety issues. He was pleased with the work of the Agencies involved and the multi-disciplinary approach taken. It was at such times that the value of international co-operation and inter agency support was essential.

2. Adoption of the Agenda

The agenda for the Meeting was adopted without modification.

3. Approval of Summary Record of the 15th IACRS Meeting (Paris, January 2010)

The previous Meeting of IACRS had been chaired and hosted by the Nuclear Energy Agency of the Organisation for Economic Co-operation and Development. It was noted that the previous minutes should have been meeting 15, not 14 as reported.

Item 3 on page 1 the word 'South' should be deleted in respect of the American FORO group.

Item 5, page 3. The paper on ionising radiation scanner use should be identified as being produced subsequent to the meeting.

Item 7, page 4. The workshop in Rio between the 13th and 15th April should be IAEA/PAHO.

With these amendments the summary record was approved.

4. Development of European and International Basic Safety Standards

4.1 European BSS

Dr Augustin Janssens, Representative of the European Commission (EC), presented an update on the status of the Euratom BSS Directive, noting that the EU BSS was generally in line with the International BSS. Work on the drafting of the Euratom BSS was completed in November 2010 and it was anticipated that it would be adopted by the European Commission in July 2011. The process of adoption by the Council is expected to take between one and two years. In drafting the Euratom BSS it had been decided to focus on the legal requirements, and leave out the scientific background (the dose coefficients for instance). The Article 31 Group of Experts had discussed the implications of the ICRP recommendations for the dose limit for the lens of the eye and had made a recommendation for adoption in the Euratom BSS.

4.2 International BSS

Ms Renate Czarwinski, Representative of the International Atomic Energy Agency (IAEA), presented an update on the International Basic Safety Standard. Following approval of draft 4.0 by RASSC, WASSC, TRANSSC and NUSSC committees at their respective meetings in November and December 2010 the BSS Secretariat, together with the four chairs of the respective committees met in late January/early February 2011 to agree the text for draft 5.0. It was anticipated that Draft 5.0 would be submitted to the Commission of Safety Standards (CSS) for endorsement at the end of May 2011.

The current dose coefficients will remain in the BSS until ICRP issue the new dose coefficients. The proposal put forward is to provide the data in the form of a CD to replace the existing dose coefficients when available.

The IACRS discussed the implications and mechanisms of incorporating the ICRP recommendations on dose limits to the lens of the eye. Dose limits are a regulatory requirement and it is not automatic that the recommendations of the ICRP have to be followed. However, to deviate from the recommendations of ICRP would need to be justified. There was much debate about the proposals from ICRP.

Mr Christopher Clement, Representative of the International Commission on Radiological Protection (ICRP), outlined the rationale behind the decision. Mr Clement reported that new evidence was available for lower thresholds for lens opacities based on more sophisticated scoring of damage, longer follow up times and more data being available in the low dose range. For the lens of the eye the threshold is now considered to be 0.5 Gray. The ICRP recommendation was based on protecting the individual over a lifetime but also focussing on optimisation. The value was based on the 0.5 Gray being received over a 25 year career, giving a limit of 20 mSv per year. ICRP also proposed that the current limit for public exposure to the lens of the eye would remain unaltered.

There was a long discussion within IACRS on the impact of the ICRP statement on a lower dose limit for the lens of the eye. Members of IACRS recognised that there would be implementation issues related to the proposed new dose limit for workers and expressed concern at the very large reduction in the limit. For the case of dose limits for apprentices and students and the public concerns were expressed about the appropriateness of the numbers as well as the overall

consistency of the application of the system of radiological protection. The members of the IACRS felt that ICRP's rationale need to be further clarified and the impact of such a drastic reduction had to be carefully examined. They were of the opinion that ICRP meeting in Bethesda would be a good opportunity to further discuss this issue and in the meantime the international BSS should proceed without a reduction of the dose limits on a provisional basis.

Members of the BSS Secretariat considered it necessary to have a common position on the ICRP statement on the equivalent dose limits for the lens of the eyes. It was agreed that the BSS Secretariat should take note of the ICRP report on tissue reactions and the ICRP statement on the new dose limit on equivalent dose for the lens of the eye for occupational exposure in planned exposure situations. The BSS Secretariat expected that there would be further discussions on this topic at the next ICRP meeting in Bethesda, USA, in October 2011. It agreed that taking steps to reduce doses to the lens of the eye would be warranted. It recognized that the establishment of the reduced dose limit for the lens of the eye would have regulatory implications and had discussed the practical impact intensively. It was concluded that more information on this impact would be needed.

It was pointed out that the ICRP had not yet recommended changes for the dose limit for the lens of the eye for members of the public, nor for other categories of people such as apprentices and students. The BSS secretariat recommended, taking into account the necessity to have the revised BSS available as soon as possible, to continue with the approval process of the current draft 5.0 BSS and to formulate a process for adopting reduced equivalent dose limits for the lens of the eye after having clarified the practical impact. It agreed that the issue should be described in the preface to the revised BSS.

5.0 Topical Issues

5.1 Fukushima Daiichi Nuclear Power Plant Accident

Members of IACRS gave presentations on their roles in the Fukushima event.

Dr Maria Perez, Representative of the World Health Organization (WHO), opened her presentation by setting the nuclear accident in context of the wider devastation caused by the earthquake and the tsunami. WHO's function in such an emergency is to act as the directing and co-ordinating authority on international health work. The International Health Regulations (IHR), effective 2007, includes provisions for nuclear emergencies. The Radiation Emergency Medical Preparedness and Assistance Network (REMPAN) is a WHO network of more than 40 collaborating centres specialising in medical and public health response to radiation emergencies. The Western Pacific Regional Office (Manila) of WHO was activated on the 11th March for the collection of information to monitor the situation. Whilst WHO has no office in Japan the Kobe Centre for Health acted as such and liaised with the Western Pacific Regional Office and WHO Headquarters in Geneva. Close interaction was maintained with the IHR national focal point in Japan to share information through the IHR event information site. Situation reports and updates together with a set of Frequently Asked Questions were prepared.

WHO is interacting with IAEA, UNSCEAR, FAO and the Japanese Government for international collaboration on dose assessment to inform health risk assessment as well as a long term follow up. WHO worked closely with FAO on food safety and received updates from Japan through the International Food Safety Authorities Network (INFOSAN). WHO monitored media and

government websites for food measures being implemented in other countries. Twenty countries plus the European Union implemented a variety of control measures on the import of Japanese food. To date there have been few reports of radionuclide content exceeding Codex standards. Currently WHO reported no international spread of contaminated food posing direct health risks and the risk of direct radiation effects on other countries was considered to be low. There were no general restrictions on travel to or from Japan and screening of passengers arriving from Japan at international air and sea ports had been considered unnecessary.

Dr Janssens presented a review of the impact on Europe and EC actions. The Euratom BSS places compulsory cooperation on Member States in the event of emergency. Emergency reference levels are important in emergency situations. The Euratom BSS has bands of reference levels for public exposure and corresponding societal criteria. Reference levels in the range of 1 to 20 mSv per year for existing exposure situations including long term post –accident management. Reference levels in the range 20 mSv to 100 mSv for emergency exposure situations (below 20 mSv if no disproportionate detriment or excessive cost of countermeasures and below 1 mSv for specific pathways of exposure).

The European Community Urgent Radiological Information Exchange (ECURIE) is the official framework for informing Member States of radiological emergencies. ECURIE was set up in the aftermath of the Chernobyl accident and is on standby on a 24/7 basis. The European Radiological Data Exchange Platform (EURDEP) is the main tool for the monitoring of radiation levels in Europe and is part of ECURIE. No enhanced levels of radiation had been detected in Europe as a result of the Fukushima accident. Very low levels of airborne concentration were measured in high volume air samplers. The platform was offered as a mechanism to make the Japan data available. The European Commission confirmed its solidarity with Japan which included the preserving of the economy from adverse effects on the market as a result of concerns of consumers and customers in the EU. As a result it was important that there were harmonised criteria for: food and feed, ships and containers and other goods. The Commission had issued binding agreements on import checks on food and feed and non-binding guidelines for the contamination checks on ships and containers that had been in the area. A gap was identified on permissible levels of contamination of goods applicable in international trade and the Commission will pursue the establishment of international standards to cover this.

For food and feed imports from twelve named prefectures in Japan were allowed with confirmation from an authorized Japanese agency together with an analytical report on content of radionuclides iodine 131 and caesium 134 and 137. A regime of 10% check sampling was initiated at import into the EU. For other prefectures a 20% monitoring regime had been established. The maximum permitted levels were adjusted to those applicable in Japan. Check monitoring of marine produce from certain Pacific fishing areas had been recommended. To date no contamination had been identified. New food and feed regulations had been issued (297/2011 and 351/2011).

For ships and containers an information message was issued through ECURIE to request information on checks for radiation levels on incoming ships and cargoes from Japan and proposed harmonised thresholds for further action (decontamination) and reporting. A threshold value of 0.2 $\mu\text{Sv/h}$ above background, measured at a distance of 1 metre, was established with the requirement to decontaminate any contaminated surface wherever possible. There was no reference level established for non-removable contamination, but the Japanese had used 5 $\mu\text{Sv/h}$.

The Commission will examine the guidance on the basis of scientific and radiation protection principles at a meeting of the Article 31 Group of Experts in June.

The EC proposed actions to define a roadmap for the establishment of criteria for international trade and transport. Codex Alimentarius should re-consider strontium and iodine being in one group. Maximum levels of radioactive contamination in goods to be traded needs to be defined. Lessons to be learnt from the experience in Japan include evaluation of doses and implementation and criteria for countermeasures.

Ms Czarwinski outlined the work of the IAEA. The estimated releases of radionuclides, as a result of the accident, were given as 130PBq for iodine 131 and 6.1PBq for caesium 137. These figures compared to 1800PBq and 85 PBq respectively for the release from Chernobyl. The International BSS was an important document in the context of the event. There were some differences between the current BSS and the revised version in terms of 'intervention levels' as opposed to 'reference levels'.

Four IAEA monitoring teams were sent to Japan for the period of 17th March to 18th April 2011 with the objective of performing environmental monitoring to provide independent data and trend analysis for each location. Measurements undertaken included: beta/gamma dose rates, gross beta/gamma surface activity concentration, gross alpha contamination surface activity concentration, gamma spectrometry for radionuclide deposition, personnel and equipment contamination, decontamination of people and equipment, collection of air samples and smears for laboratory analysis and the collection of samples of soil, vegetation and water. Measurements of dose rates and surface activity concentration levels were taken in distances between 20 km and 80 km from the nuclear power plant. The results were in agreement with the Japanese regulatory authorities measurements. No alpha contamination was found. There were some difficulties experienced undertaking the monitoring not least because of the access difficulties posed by the scale of the disaster. There were also difficulties experienced in the geometry set up of the gamma spectrometry system in the field as opposed to the laboratory.

The Japanese Nuclear and Industrial Safety Agency (NISA) had reported that as of 27th April 175,405 people had been subject to screening monitoring. The Tokyo Electric Power Company (TEPCO) reported total doses received by emergency workers up to the end of March as;

- 2 workers 200-250 mSv
- 8 workers 150-200 mSv
- 11 workers 100-150 mSv
- Other workers doses were below 100 mSv.

During the emergency the IAEA established an in-house Fukushima Accident Consequences Team (FACT) with two specific teams - the Fukushima Nuclear Safety Team (FNST) and the Fukushima Radiological Consequences Team (FRCT).

Dr Ted Lazo, Representative of the Nuclear Energy Agency (NEA) of the Organisation for Economic Co-operation and Development (OECD), outlined the role of NEA. Whilst the NEA has no statutory role in response to nuclear or radiological emergency situations it is one of the founding members of the Inter-Agency Committee on the Response to Radiological or Nuclear

Emergencies (IACNRE). During the Fukushima accident the NEA offered to collate governmental recommendations and decisions. IACNRE endorsed the NEA to undertake this role. Responses were received from 34 countries, of which 26 were NEA member states. NEA coordinated collection of responses from: NEA working party on Nuclear Emergency Matters, IAEA Competent Authorities through the ENAC network, Global Health Initiative (G8 plus Mexico) through health ministries and from European Union members through the ECURIE network.

The meeting of the Committee on Radiation Protection and Public Health (CRPPH), to be held later in May, would include a topical session on 'The Radiological Consequences and Emergency Management Aspects of the Fukushima Nuclear Accident'.

Mr David Byron, Representative of the Food and Agriculture Organization of the United Nations (FAO), reported on the FAO activities. FAO Headquarters (Rome) works with the Joint FAO/IAEA Division on Nuclear Techniques in Food and Agriculture (Vienna), in preparing for and responding to nuclear or radiological emergencies affecting food and agriculture, including the application of FAO capabilities as a critical counterpart in defining and implementing agricultural countermeasures and remediation strategies in response to such events.

It was noted that recent and on-going activities related to the Japanese nuclear emergency undertaken by FAO as a signatory to the Early Notification and Assistance Conventions and other inter-agency agreements helped to ensure the dissemination of information on food monitoring and food restrictions, the consideration of agricultural countermeasures and remediation strategies to mitigate immediate and longer term effects arising from radionuclide contamination, and the interpretation of standards related to radiological protection of the public, to both FAO and IAEA as well as to other international organizations Member States.

Specifically, the FAO representative noted the following recent and on-going activities of the Joint FAO/IAEA Division related to the Japanese emergency:

- As the focal point between FAO Headquarters and the IAEA Incident and Emergency Centre (IEC) in Vienna, the Joint FAO/IAEA Division had continually manned the FAO Desk in the IAEA/IEC, which included the preparation and presentation of briefing texts and slides on food contamination and monitoring data and restrictions on food distribution and/or consumption to Member State, Council meetings, press conferences and postings on the IAEA website.
- Represented FAO as a member of the Fukushima Radiological Consequences Team (FRCT) of the IAEA Director-General and convened Fukushima Accident Coordination Team (FACT) meetings.
- Represented FAO and IAEA in video/teleconferences through the IACRNE to ensure a unified approach in addressing issues related to food and agriculture.
- Actively participated in teleconferences that took place with other colleagues in both FAO and WHO in order to prepare and disseminate "questions and answers" related to food safety and the application of international standards, including the Joint FAO/WHO Codex Alimentarius Guideline Levels for Radionuclides in Foods.

- Promoted knowledge and information sharing on radioactive contamination affecting food and agriculture, including the mechanisms and persistence of such contamination, radionuclide transfer rates and international standards.

It was also noted that from the 26th to 31st March 2011, a Joint IAEA/FAO Food Safety Assessment Team (FSAT) was sent to Japan. The objective of the mission was to provide advice and assistance to the Japanese authorities on technical issues related to food safety and agricultural countermeasures, including sampling and analytical strategies and interpretation of monitoring data to ensure that reliable, continuous updates could be provided on the extent of food contamination in affected areas, with the understanding that the data would form a basis for the development of mitigation and remediation strategies.

The Meeting was further informed that the Joint FAO/IAEA Division has the multi-disciplinary expertise to assist Japan, and to build capacity in other Member States to respond effectively to similar incidents, through both normative activities (information dissemination, preparation of manuals on sampling and analysis of soil and agricultural produce, information on phyto-extraction of radioisotopes) and operational activities (research projects, building capacity to perform sampling and analysis etc.). These activities could include an opportunity for the initiation of research programmes to collect information on contamination in the immediate and longer terms to characterise agricultural contamination and to improve the effectiveness of agricultural countermeasures and remediation strategies.

Mr Malcolm Crick, Representative of the United Nations Scientific Committee on the Effects of Radiation (UNSCEAR) reported that UNSCEAR would conduct, once sufficient information was available, a full assessment of the levels of exposure and radiation risk attributable to the accident. It was anticipated that a preliminary report would be available in 2013. It would be likely that a further definitive report would be required several years after the accident. The Committee requested the secretariat to continue to be actively involved in the various international activities related to evaluating the radiation related consequences to people and the environment.

The ICRP were proposing to establish a Task Group on the initial lessons from the accident in Japan relevant to the ICRP system of radiological protection. Mr Clement reported that a report was anticipated within a year. The ICRP had made publication 111 (Application of the Commission's Recommendations to the Protection of People Living in Long-Term Contaminated Areas after a Nuclear Accident or a Radiation Emergency) publically available as a free download. A special session of the Main Commission would be held with representatives from Japan.

In the discussions among the IACRS members with regard to the maximum permitted levels in food, it was clear that the Codex Alimentarius guidelines had not been followed; the excessively low values for iodine in these non-binding guidelines would justify a consideration for a revision of the guidelines of 1996. It was pointed out that there was a need to clarify the coherence between the WHO guidelines for drinking water and the FAO values for liquid food; it was noted that the low values in Japan for drinking water for infants were based on a footnote in the Codex guidelines for the composition of formula milk. Some members were of the opinion that it could be a reasonable measure if Japan had issued a ban on the food harvesting immediately after the first release in the affected areas, rather than waiting for the results of measurements.

With regard to non-food it was agreed that the transport regulations should not be referred to and that there was a need for internationally agreed levels for radioactivity on goods in international trade. The forthcoming work in IAEA on scrap metal and semi-finished metal products, albeit launched in the context of orphan sources, could be broadened for this purpose.

It was urged that the older practical guidance on response to nuclear and radiological emergencies in particular the ones developed by the IAEA should be updated in a coordinated manner. The unprecedented features of an accident of long duration, such as that of Fukushima, should be addressed.

ISO offered to provide standards for the control of radioactivity on ships, containers and goods.

Dr Niu summarised the discussion of the IACRS on the lessons to be learnt from the Japanese event. Standards that are in place need to be supported by appropriate tools. Many tools exist currently but they need to be readily available and should be simple to use, coherent and brought up to date where necessary. Better ways of obtaining and sharing information in the event of such emergencies need to be available.

A significant issue still remained with regard to trade in goods post such events and it was difficult to find common ground among different countries approaches. There was a need to harmonise approaches and define a strategy.

The IACRS members agreed and were committed:

- 1 to look to harmonising approach to the establishment of criteria for international trade and transport in such events; and
2. to have available effective tools to cover all aspects of such events and to ensure they were readily available and useable.

5.2 Radon

Ms Czarwinski reported that a small working group had looked at ICRP Committee 4 recommendations.

Dr Perez reported on the dissemination of the WHO handbook of indoor radon and work with building professionals in terms of risk communication, education and involvement for effective prevention and mitigation. A 'Healthy Housing' meeting had been held in October 2010 and a workshop for building professionals in November 2010 had discussed a plan for providing communication tools and training materials. A joint WHO/IAEA indoor radon meeting and IAEA regional workshop on reducing risks from indoor radon had been held at WHO Headquarters in Geneva in November 2010.

Dr Alain Rannou, Representative of the International Standards Organization (ISO) identified ISO's work on standards relating to the determination method of radon exhalation rates from dense building material and soil measurements.

5.3 Scanners

Dr Niu opened the topic of the use of scanners in security screening. There are a number of systems in use worldwide for the inspection of cargo. As well as radioisotope systems based on

caesium-137 and cobalt-60 increasingly the use of high energy linear accelerators replaced x-ray generators operating in the 100 to 450kVp range. Neutron generators were also in use and CT scanners for cargo screening were being developed. He reminded the IACRS of the statements in the current and revised International BSS about justification of use of scanners. A request had been received by ILO from the International Road Transport Union (IRU) to review exposure levels of drivers who make undertake cross boarder journeys and receive exposures up to eight times a day whilst they remained in their cabs. The IRU were looking for assurances on equipment safety and information for drivers. They had requested ILO to undertake measurements of exposure levels.

The International Electrotechnical Committee (IEC) had published standards IEC 62463 and IEC 62523 in June 2010. These related to X-ray systems for the screening of persons for security and the carrying of illicit items and cargo/vehicle radiographic inspection systems respectively. The IEC were also working on IEC62701 on measuring the image performance of X and gamma systems for security screening of humans, which was being led by the US.

The ISO has a commitment to explore the use and operations of such systems.

Dr Janssens reported that the Health and Consumer Protection Directorate General (SANCO) wanted a complete ban on their use.

It was mentioned that the screening of trains between two countries in Eastern Europe was considered in the studies of the IAEA.

The international BSS puts the responsibility for regulation on government and SANCO relies on WHO statements.

The members of IACRS felt that the international organisations have no grounds to issue a general ban on the use of X-ray systems for reasons of security.

Dr Niu stated that any safety guide produced on their use should be in line with the requirements of the BSS.

For public screening there were also issues of privacy and there was a move towards the use of pictograms rather than individual profiles to identify the whereabouts of any hidden items.

5.4 Radiation Risks

Ms Czarwinski reported that the start of work on the topic by the ICRP task group had been postponed as a result of the recent events in Japan.

UNSCEAR has work programmes to develop a report specifically on radiation risks and effects on children to include sources of exposure, geometry, metabolism etc. and also to review developments on mechanisms of actions at low doses.

5.5 Occupational Exposure

There was no progress on the ICRP Task Group on occupational exposure.

The Steering Group on the International Action Plan for Occupational Radiation Protection is due to meet in Vienna in June 2011 to review their action plan.

The NEA is to producing a report on the use of constraints in the nuclear industry.

6. IACRS Member Organisations Reports

6.1 ICRP

Mr Clement reported the activities of the ICRP through teleconference. In April ICRP released the Statement on Tissue Reactions recommending an equivalent dose limit for the lens of the eye of 20 mSv in a year for occupational exposure in planned exposure situations.

He reported that the ICRP Publication 113: Education and Training in Radiological Protection for Diagnostic and Interventional Procedures had been published. Four further reports are scheduled for publication during the remainder of the year:

- Lung cancer risk from radon progeny and the ICRP statement on radon
- Tissue reactions and other non-cancer effects of radiation
- Dose conversion coefficients for external radiation sources (jointly with ICRU)
- Transfer factor values for estimating exposure of reference animals and plants in environmental modelling contexts

In addition ICRP is developing a compilation of pre ICRP 103 dose conversion coefficients planned for free distribution.

ICRP is currently seeking comments on three draft documents

- Radiological Protection in paediatric diagnostic and interventional radiology
- Radiological Protection in fluoroscopically guided procedures performed outside the imaging department
- Patient and staff radiation protection in cardiology

In addition two further documents were being prepared for consultation

- Radiological protection in geological disposal of long lived solid radioactive waste
- Radiological protection against radon exposure

It was reported that ICRP would hold the first ever ICRP symposium on the International System of Radiological Protection in parallel with the next joint meeting of the ICRP Main Commission and Committees. The symposium will be held between October 24th and 26th 2011 in North Bethesda USA.

6.2 European Commission

The EC was proceeding with work on guidelines on accidental and unintentional exposures in radiography and looking at internal dosimetry. Assessment of European population doses from discharges from nuclear power plants was being prepared.

The Article 31 Group of Experts was in the preparatory phase of work on a report on dose constraints.

A scientific seminar will be held in November on individual radio sensitivity and the same working party that is arranging this produced a compilation of evidence on health effects from Chernobyl which was endorsed by the Article 31 Group in June.

6.3 FAO

Within the context of FAO obligations related to food and agriculture as a full party to the Early Notification and Assistance Conventions, and in collaboration with other FAO colleagues in Rome, the Food and Environmental (FEP) Sub-programme successfully contributed to the revision and publication of the revised 2010 version of the Joint Radiation Emergency Management Plan of the International Organizations (EPR JPLAN 2010), which became effective on 1 January 2010. The FAO is a full party and co-sponsor of the Joint Plan, which provides the management tools for coordinating international organization arrangements in preparing for, and responding to, nuclear or radiological emergencies.

The FAO Representative noted that his organization attended the most recent 21st Regular Meeting of the Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE), which took place at WHO Headquarters in Geneva, Switzerland from 16–17 June 2010. The IACRNE mandate is to coordinate the arrangements of the relevant international intergovernmental organizations in preparing for and responding to nuclear and radiological emergencies, including their participation in international nuclear emergency exercises.

The FAO also participated in the 28th (21-24 June 2010) and 29th (7-10 December 2010) meetings of the Radiation Safety Standards Committee (RASSC) at IAEA Headquarters in Vienna, Austria. The FAO participated in most of the discussions concerning the review and revision of the International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources (BSS) as a cosponsoring organization, particularly in regard to the development of emergency preparedness and response procedures for nuclear and radiological emergencies affecting food and agriculture.

The FAO looks forward to its continued collaboration with the RASSC and the BSS Secretariat in the on-going revision and finalization of the International Basic Safety Standards and in assisting governments to effectively respond to nuclear and radiological emergencies through the provision of training and support and the development, coordination and implementation of standards, management procedures and emergency preparedness and response mechanisms related to food and agriculture.

6.4 IAEA

The Radiation Safety Standards Committee (RASSC) started in 2011 its new three year term under the chairmanship of Mr Gustavo Massera of Argentina. The agenda for the 30th RASSC meeting had been drafted and was with the legal office.

Work on a preparatory radon statement for ICRP, with technical assistance from member states, had started.

It was planned to issue Safety Guides on Radon and NORM, which should include recommendations for building materials. The proposal was to issue separate safety guides rather than combine as one.

Safety Guides were also proposed for Justification and for Radiation Protection of Public and the Environment.

A project was planned looking at the safety of patients in radio-oncology.

A conference on “Radiation Protection in Medicine – setting the scene for the next decade” will be held in Bonn, Germany between 3rd and 7th December 2012.

The IAEA was also to look at internal arrangements for radiation protection for staff involved in the Fukushima response.

6.5 NEA

The NEA was finalising a review on how to come out of the early phases of an emergency and would report to the French parliament. A case study on occupational exposure and use of dose constraints in the nuclear industry was being produced.

A workshop involving regulators, vendors and utilities would be held in Paris in January 2012 and an EGBAT summary report had been approved for submission to the meeting.

A Science and Values workshop on decision making scheduled to be held in November in Tokyo had been postponed, but it was hoped to be rescheduled for the first quarter of 2012. The workshop proposed to look at

- The DDREF concept as a factor in risk estimation and decision making in the low dose and dose-rate region
- Radiation effects on the circulatory system
- NORM

As part of the workshop it was proposed to look at consequence management from the Fukushima accident.

The Expert Group on Consumer Products (EGCP) had developed a draft rewrite of the RP147 report written for the EC by the Health Protection Agency.

NEA was also involved in work on the ICRP draft on Radiological Protection Criteria for long term waste management operations.

The NEA had expanded to 30 members with the inclusion of Poland and Slovenia

6.6 PAHO

Dr Pablo Jimenez, Representative of the Pan American Health Organization (PAHO), briefed the meeting the activities of PAHO. In 2010 PAHO celebrated the 50th anniversary of the Radiological Health Programme.

Activities planned for 2011 include:

- Updating the regulatory information in Panama, Costa Rica, Nicaragua and Honduras

- Assessments in Venezuela, Columbia and Paraguay
- Support regulatory approach in Argentina
- Establish an action plan in Brazil
- Hold two regional workshops on Evaluating the National Regulatory Framework in Medical Exposures

PAHO had an ongoing remit to improve the quality, safety and access to radiological services and undertakes evaluations of the provisions.

In terms of technology improvements the following were planned in 2011

- Incorporation of 30 Digital Multipurpose Radiology equipments jointly with Rotary International in Guatemala
- Incorporation of Ultrasound Equipments jointly with Medical Imaging Partnerships in Guyana
- Assessment of the radiotherapy services in Trinidad and Tobago, Suriname, Guatemala and Dominican Republic.

The provision of qualified personnel is an issue with a shortage of Radiologists, Radiation Oncologists, Medical Physicists, Radiological Technologists/Radiographers, and Experts in Radiation Protection.

Only some countries have a formal education program for these professionals, but in general follow poor curricula. The possibilities to obtain additional or Continuing Education Training are very limited in many of them and there is a lack of or poor mechanisms for recognition or certification of these professionals.

6.7 UNSCEAR

Mr Crick reported on UNSCEAR activities.

The 2008 UNSCEAR Report had been published including

- Volume I: (published April 2010)
 - Medical exposures
 - Public and occupational exposures
- Volume II: (published April 2011)
 - Exposures in accidents
 - Radiation effects of Chernobyl accident
 - Effects on non-human biota

The UNSCEAR 2010 report was about to be published (press briefing 23 May) and included:

- Summary of low-dose radiation effects on health
- Radiation-induced cancer
- Hereditary effects of radiation exposure
- Radiation-associated non-cancer disease

The report recapitulates and integrates conclusions of relevant scientific annexes over the last six years.

The UNSCEAR strategic plan for 2009 to 2013 was outlined with the strategic objective to increase awareness and deepen understanding among authorities, scientific community and civil society with regard to levels of radiation and related health and environmental effects as sound basis for informed decision-making on radiation-related issues.

Thematic priorities for UNSCEAR:

- Medical exposures (Memorandum of understanding with WHO and IAEA, DoseDataMed)
- Radiation levels from energy production
- Natural sources (IAEA DIRATA)
- Effects from low-dose-rate exposures

Strategic shifts to improve:

- Operational processes
- Data management (Databases)
- Results-based management and coordination
- Outreach (Brochure, Web, Press releases, Lecture materials)

The 58th UNSCEAR session was planned for 23rd to 27th May 2011 and would include

1. Technical discussions:

- (a) Ability to attribute risks and effects to radiation exposure;
- (b) Uncertainties in risk estimates for cancer due to radiation exposure;
- (c) Radiation exposures from electricity generation;
- (d) Methodology for estimating human exposures due to discharges;
- (e) Biological effects of selected internal emitters.

2. Consideration of reports by the secretariat:

- (a) Public information and outreach;
- (b) Improving collection, analysis and dissemination of exposure data
- (c) Effects of atomic radiation in the Republic of the Marshall Islands

3. Recommendations for future programme of work:

- (a) Radiation risks and effects in children;
- (b) Epidemiology related to environmental sources at low dose rates;
- (c) New proposals (Fukushima-Daiichi assessment).

4. Preparation of report to the General Assembly

6.8 WHO

Dr Perez gave an overview of WHO activities. REMPAN is a WHO network created in 1987, one year after the Chernobyl accident. The last REMPAN meeting was held in Nagasaki between 16th and 18th February 2011

WHO set up a Global Network of Biodosimetry (BioDoseNet), with more than 50 biological dosimetry laboratories to support the response to radiation emergencies.

IAEA, UNDP, UNICEF, WHO Project "Human Security for Individuals and Communities in Chernobyl-affected Areas through Local Information Provision" (ICRIN) is a joint effort targeted to residents of the affected territories. WHO organized education and training of health care providers, teachers and mass media workers to promote healthy lifestyles.

Chernobyl's 25th anniversary- related events:

- ICRIN meeting held linked to Nuclear Summit and conference (April 2011 Kiev);
- WHO Director-General meeting with the NGO "Independent WHO" ;
- Director of Public Health and Environment (PHE) of WHO meeting with NGO "Children of Chernobyl";
- Updated website & FAQs

Radon exposure

The dissemination of the WHO Handbook on Indoor Radon continued during the reported period and Radon as a "healthy housing" issue had been included in WHO Indoor Air Quality Guidelines and addressed in a Healthy Housing Project. WHO is working with building professionals for risk communication, education, involvement for effective prevention and mitigation.

A 'Healthy Housing' meeting was held from the 13th -15th October 2010 at the WHO HQ in Geneva.

A WHO Workshop on Radon Communication for Building Professionals took place on 2nd November 2010 at the WHO HQ in Geneva- to elaborate a plan for the development of communication tools and training materials.

A Joint WHO-IAEA Indoor Radon Meeting and IAEA Regional Workshop on Reducing Risks from Indoor Radon were held on 3rd -4th November 2010 at the WHO HQ in Geneva.

WHO Guidelines for Drinking Water Quality

WHO norms on water quality and human health in the form of guidelines for drinking water quality are used as the basis for regulation and standard setting worldwide. A working group was established to review and revise chapter 9 addressing radiological aspects, including experts from the DWQ (Drinking-water Quality) Committee, WHO Collaborating Centres (IRSN, BfS, HPA) and IAEA. Revision of the Third Edition ended, incorporating 1st & 2nd Addenda. With participation of WHO Regional Offices, the revised version is expected to be ready by July 2011.

WHO Global Initiative on Radiation Safety in Health Care Settings

Focusing on public health aspects related to the risks and benefits of the use of radiation in health care

Risk assessment: data collection

UNSCEAR-WHO-IAEA collaboration to improve data collection on medical exposures: a tripartite memorandum of understanding to be signed to improve evaluation of global estimates of frequency and levels of exposures (medical procedure, age, sex, health care level, country, information about equipment and staffing). A simplified questionnaire had been developed to look at design, content, taxonomy, terminology, instructions.

It will focus on most significant procedures and foster systematic data collection from populous countries including electronic solutions for data collection and dissemination of findings and the use of existing mechanisms (IAEA- frequency and doses in radiotherapy and nuclear medicine and WHO health care indicators).

Report of the WHO Workshop on "Radiation Risks Assessment in Paediatric Imaging" was published in J. Radiol. Prot. 30:105-110 (2010).

Collaboration with UNSCEAR and other relevant partners to identify priorities and set up a global research agenda on health effects of medical radiation exposures

WHO and EC co-sponsored the 2nd International Workshop of the Multidisciplinary European Low Dose Initiative (MELODI), Paris 18-20 Oct. 2010

Improving radiation protection culture in health care settings

During the Third Asian and Oceanic IRPA Congress held in Tokyo in May 2010 WHO delivered a refresher course on radiation protection in medicine, a session on radiation protection culture in health care, a WHO special session "Appropriate use of radiation in paediatric imaging-challenges and opportunities" and International Organizations Forum.

During the Third European Congress on Radiation Protection held in Helsinki in June 2010 WHO-STUK organized a Specialists Workshop "Safer and effective use of radiation in paediatric imaging".

During the Third African Congress on Radiation Protection IRPA (Nairobi, September 2010) - WHO held special session on medical exposures.

The WHO Consultation on Referral Guidelines for Appropriate Use of Radiation Imaging in March 2010 was attended by 35 participants from 23 international, regional and national organisations and includes the EC and IAEA.

Referral guidelines project

A Referral Guidelines Planning Meeting was held on the 23rd September 2010 at the WHO HQ in Geneva. The referral guidelines working group (RG WG) and special interest groups (SIGs) were established and pilot sites were identified.

A Referral Guidelines Core Group Meeting was held in Geneva from the 7th – 9th March 2011 and a first draft proposal was sent to SIGs in April 2011 (45 consensus guidelines) and radiation protection /introductory chapter to be circulated in May 2011.

PAHO and IAEA are cooperating to develop referral guidelines in Spanish, involving the Inter American College of Radiology (CIR), Argentina, Cuba, Mexico, Peru, Uruguay (1st meeting in Buenos Aires was held from the 22nd – 24th April 2010 with the participation of WHO).

Workshop on Radiation Risk Communication in Paediatric Imaging

A workshop was held from the 20th -22nd September 2010 at WHO HQ in Geneva.

WHO contribution to IAEA activities

- Technical Meeting on Justification of Medical Exposure in Diagnostic Imaging (Vienna, October 2010);
- International Symposium on Standards, Applications and Quality Assurance in Medical Radiation Dosimetry (IDOS, Vienna, November 2010)
- IAEA consultants meeting on the applicability of the INES scale in the medical setting (Vienna, November 2010).
- IAPRPoP (patients) and IAPORP (workers)

WHO collaboration with EC

WHO participates as observer in:

- EC Article 31 Group of Experts
- EC WP on Medical Exposures

And contributes to the following EC projects:

- Medical Physics Expert
- DoseDataMed
- Medrapet

6.9 ICRU

Prof Herwig Paretzke, Representative of the International Commission on Radiation Units and Measurements (ICRU), presented details of the ICRU work programme. The ICRU has as its principal objective the development of internationally accepted recommendations regarding:

- (1) quantities and units of radiation and radioactivity;
- (2) procedures suitable for the measurement and application of these quantities in diagnostic radiology, radiation therapy, radiation biology, nuclear medicine, radiation protection, and industrial and environmental activities;
- (3) physical data needed in the application of these procedures, the use of which assures uniformity in reporting.

Recent publications included ICRP 110 (Publication on adult reference computational phantoms) jointly with ICRP and the following ICRU reports:

ICRU 83 Prescribing, recording and reporting intensity modulated photon beam therapy (IMRT)

ICRU 84 Reference data for the validation of doses from cosmic-radiation exposure of aircraft crew

An updated report on 'Fundamental quantities and units for ionizing radiation' is complete and awaiting publication (ICRU85). Reports on 'Key data for measurement standards in dosimetry of ionizing radiation' and 'Small field photon dosimetry and applications in radiotherapy' are currently being prepared.

6.10 IEC

Dr Miroslav Voytchev, Representative of the International Electrotechnical Commission (IEC), gave an outline of the work of SC 45B of IEC

A number of new standards had been produced viz:

IEC62438: Mobile instrumentation for measurement of gamma and neutron radiation in the environment

IEC61526 (3rd edition): Measurement of personal dose equivalents $H_p(10)$ and $H_p(0,07)$ for X, gamma, neutron and beta radiations-direct reading dose equivalent meters

IEC60532 (3rd edition): Installed dose rate meters, warning assemblies and monitors-X and gamma radiation of energy between 50keV and 7MeV

IEC62463: X-ray systems for the screening of persons for security and the carrying of illicit items

IEC62484: Spectroscopy-based portal monitors used for the detection and identification of illicit trafficking of radioactive material

IEC62533: Highly sensitive hand-held instruments for neutron detection of radioactive material

IEC62523: Cargo/vehicle radiographic inspection systems

A template for new standards had been developed. On average over the last ten years four new standards had been produced per year.

IEC had several new projects: Neutron ambient dose equivalent (rate) meters, Electronic counting dosimeters for pulsed fields of ionizing radiation, Radiation protection instrumentation-passive integrating dosimetry systems for personal and environmental monitoring, Measuring the imaging performance of X-ray and gamma systems for security screening of humans.

A working group was being set up with SC45A on 'Instrumentation for nuclear safeguards'.

The last SC45B meeting was held in Seattle in October 2010 with some 2800 delegates attending from more than eighty countries.

The next grouped interim meeting of several of SC45B working groups will be held in June at the IAEA in Vienna, with the next regular SC45B meeting scheduled for February/March 2012 in Karlsruhe.

6.11 IRPA

Dr Kenneth Kase, Representative of the International Radiation Protection Association (IRPA) detailed the work of IRPA. The IRPA Executive Council Meetings held included;

58th meeting 27th - 29th February 2009 in Bethesda, MD, USA

59th meeting 3rd - 4th October 2009 in Paris, France

60th meeting 11th - 12th September in Nairobi, Kenya

The goals for IRPA for the period 2008-2012 were given as

1. Promote excellence in the conduct of IRPA
2. Promote excellence in national and regional associate societies
3. Promote excellence in radiation protection professionals

IRPA is recognized by its members and stakeholders as the international voice of the radiation protection profession

Tasks for 2008-2012 included:

1. Revise rules and procedures to ensure the conduct of excellent and effective IRPA congresses

2. Develop a position paper on the subject of an effective radiation protection society
3. Develop a strategy plan on education and training activities
4. Prepare a document on the criteria for engaging IRPA with its Associate Societies, international organizations and others

The role of IRPA is:

- To provide a medium for communication and advancement of radiation protection throughout the world
- To encourage the establishment of radiation protection societies
- To support international meetings
- To encourage international publications dedicated to radiation protection
- To encourage the establishment and continuous review of universally acceptable radiation protection standards and recommendations
- To encourage professional enhancement

IRPA was working to establish Radiation Protection Societies in Chile, Georgia, Indonesia, Iran, Thailand and Venezuela but areas such as Africa and the Middle East still needed to be developed.

Improving Radiation Protection Culture

The following workshops on radiation protection culture had been held:

1. China, Japan and Korea Workshop, Jeju Island , Korea, 23rd November 2010 sponsored by Korean Association for Radiation Protection
2. Second International Workshop, Charleston, SC, USA, 10th - 11th February 2011. This was co-sponsored by the Health Physics Society, American Association of Physicists in Medicine and the Alliance for Radiation Safety in Pediatric Imaging

A Working Group had been established with fifteen members representing radiation protection & medical physics and 10 countries from the North & South America, Europe and Asia. Four subgroups are working on:

1. Elements or traits of radiation protection culture and its definition
2. Criteria for success
3. Assessment tools
4. How to Engage Stakeholders & the role of radiation protection professionals and IRPA Associate Societies

The delivery programme for the work was outlined as follows;

- May –July 2011: Production of material (WG)
- Oct 2011: Preliminary draft sent to Associated Society and post on IRPA website
- Oct –Jan 2012 : Period of consultation & Preliminary Draft V2.0
- May 2012 IRPA: IRPA13 Glasgow at Associate Society working session on radiation protection culture

6.12 ISO

Dr Rannou reported on the work of the ISO. The 22nd plenary meeting of SC 2 was held at Niagara Falls, Canada, 26th – 29th April 2011. There were 90 delegates and experts from 16 countries with India taking part for the first time. Representatives from IAEA, IEC and ILO attended. Meetings of Working Groups 2, 13, 14, 17, 18, 19, 21, 22, 23 & 24 and the Advisory Group were held. Activity reports were provided by IAEA, ICRU, ICRP, ILO and UNSCEAR. There was also a meeting of the liaison team between IEC/ SC 45B and ISO/ SC 2.

Four new standards published since the last plenary meeting of SC 2 in June 2010 in Jeju of Republic of Korea, and 25 standards are under development or revision. Seven proposals under discussion and should shortly be added to the program of work. Recent publications are;

ISO 26802:2010 (July. 2010)

Nuclear facilities -- Criteria for the design and the operation of containment and ventilation systems for nuclear reactors

ISO 8769:2010 (Sept. 2010)

Reference sources -- Calibration of surface contamination monitors -- Alpha-, beta- and photon emitters

ISO 28218:2010 (Sept. 2010)

Radiation protection -- Performance criteria for radiobioassay

ISO 27048:2011 (Jan. 2011)

Radiation protection -- Dose assessment for the monitoring of workers for internal radiation exposure

New work proposals included :

- Internal dosimetry for occupational exposures of medical staff during medical applications of radionuclides
- Monitoring and internal dosimetry of specific materials - Part 1: Uranium
- Determination method of the radon exhalation rate of dense building materials
- Determination of the radon diffusion coefficient in waterproof materials using radon activity concentration measurement

- Measurement of radon-220 (Thoron)
- Performance criteria for laboratories using the cytokinesis-blocked micronucleus assay in blood lymphocytes for biological dosimetry
- Physical specification of the in vitro calibration for biological radiation dosimetry with cytogenetic endpoints (Acronym: BioDosCal)

Some further perspectives for work included:

- Characteristics of reference pulsed radiation
- Procedure for monitoring dose for extremities and lens of the eyes
- Estimation of caregivers and family exposure due to patient treated with I-131 after release from the hospital
- Calibration and/or quality assurance of dose calibrator in nuclear medicine
- Harmonization of the dose quantities in diagnostic medical applications and standardization of the parameters used to quantify individual and collective patient exposure

A decision was taken to maintain Working Group 20 "*Illicit trafficking in radioactive materials*" until a new working group could be set up on both illicit trafficking in radioactive materials and control of contaminated materials and goods. There was a commitment to explore the following potential topics:

- operation and use of cargo/vehicle radiological inspection systems
- routine measurement of gaseous radionuclides in effluents
- clearance of radioactive wastes contaminated with radioisotopes for medical application

The next meeting of SC 2 would be held in Paris from 4 to 8 June 2012.

6.13 ILO

Dr Niu presented the work of the ILO. He told the IACRS that the ILO is a tripartite organisation with worker and employer representatives taking part in its work on an equal status with those of governments. The number of ILO member countries now stands at 183. He outlined the strategic objectives of the ILO 'Decent Work' programme as:

- fundamental principles and rights at work and international labour standards
- employment and income opportunities
- social protection and social security
- social dialogue and tripartism

Standard-setting is one of the ILO's major means of action to improve conditions of life and work worldwide and ILO standards are Conventions and Recommendations adopted by the International Labour Conference. The most recent ratifications included:

- Asbestos Convention - Kazakhstan April 2011
- Labour Inspection Convention and labour Inspection (Agriculture) Convention - Czech Republic, March 2011
- Occupational Safety and health Convention and Occupational Health Services Convention – Belgium, February 2011
- Promotional Framework for Occupational Safety and Health Convention – Russian, Federation February 2011
- Maritime Labour Convention – Switzerland, February 2011
- Minimum Age Convention - Cape Verde February 2011

Issues of concern to the ILO under Convention No. 115:

- Protective measures are taken in the light of knowledge available at the time.
Article 1
- Exposure of workers to ionising radiations to the lowest practicable level & any unnecessary exposure are avoided. *Article 5*
- Dose limits for various categories of workers be fixed and be kept under constant review in the light of current knowledge. *Article 6*
- Dose limits for young workers and workers under 16 be forbidden in work involving ionising radiations. *Article 7*
- Appropriate levels be fixed for workers who are not directly engaged in radiation work, but who remain or pass where they may be exposed to ionizing radiations or radioactive substances. *Article 8*
- Appropriate warnings to indicate the presence of hazards from ionizing radiations and adequate training and education of workers before and during employment.
Article 9
- Requirements for notification of work involving exposure of workers to ionizing radiations in the course of their work. *Article 10*
- Monitoring of working environment and assessment of workers' exposure.
Article 11

ILO also provides practical guidance in the form of codes of practice or guidelines. They are used as reference work by anyone in charge of formulating detailed regulations or framing occupational safety and health programmes.

International Action Plan for Occupational Radiation Protection

The International Action Plan for Occupational Radiation Protection was developed by IAEA in co-operation with ILO. It was approved by the IAEA Board of Governors on 8 September 2003. Fourteen actions grouped in areas covering

- ILO Convention 115
- Information exchange
- Education and awareness
- Promotion of a holistic approach to workplace safety
- Protection of pregnant workers
- Probability of causation

Dr Niu stated that the ILO convention No. 115 is being promoted with due reference to the recommendations of ICRP and the International Basic Safety Standard. The ILO would like to move increasingly towards an integrated approach to safety and health at work and saw the International Action Plan on Occupational Radiation Protection being a good focus for this approach.

A briefing note had been produced in April 2011 on Radiation Safety and Protection of Workers in Nuclear and Emergency Operations.

Dr Niu also discussed the ILO publication of ‘Radiation Protection of Workers’ which was available in several languages. The purpose of the publication is to provide information about the size of the workforce affected by, and the occupational activities associated with, exposure to radiation and the relevant ILO instruments on the protection of workers.

As part of its role ILO collaborates in RASSC, IACRNE and IACRS.

7. Chernobyl 25th Anniversary Statement

It was agreed that the IACRS would not make a joint statement on the Chernobyl 25th anniversary.

8. Date and Venue of Next Meeting

Mr Crick of UNSCEAR on behalf of the IACRS thanked the ILO for efficiently hosting a very effective meeting. He offered to host the 17th IACRS Meeting and would propose some dates and venue.

9. Close of Meeting

Dr Shengli Niu thanked all the participants at the meeting for all their contribution and closed the 16th Meeting of IACRS.

**16th Meeting of the IARCS
12-13 May, Geneva**

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16th Meeting of the Inter-Agency Committee on Radiation Safety

12 – 13 May 2011, ILO Headquarters, Geneva, Switzerland

Location: ILO, Room VI (R3 level South)

Agenda

Thursday, 12 May

- 10.00 – 10.10 Welcome Remarks by the ILO
By Mr François Eyraud, Director, Labour Protection Department on behalf of Mr Assane Diop, Executive Director, Social Protection Sector
- 10.10 - 12.30 Adoption of the Agenda
- Approval of the Summary Record of the 15th IACRS Meeting (Paris, January 2010)
- Development of the revision of the BSS:
- Development of the IAEA BSS approval
 - Development of the EC BSS
 - Impact of new ICRP statement on BSS requirements
 - Implementation of BSS in emergency situations (the experience of Fukushima)
 - Issues of interest to IACRS organizations from the International BSS
 - Procedures of the BSS co-sponsoring organizations' approval
 - Promotion of the new BSS
- 14.00 – 15.30 Topical issues
- Fukushima Daiichi NPP accident
 - Radiation Protection in security screening
- 15:30 – 16.00 Coffee/Tea Break
- 16:00 – 17.30 Development of the IACRS member and observer organizations
- International Commission on Radiological Protection (ICRP)
- Topical issues (continued)
- Radon exposure
 - Radiation risks
 - Occupational exposure
- 17.30 Reception at ILO Restaurant on R2 North

Friday, 13 May

- 09.00 – 10.30 Development of the IACRS member and observer organizations
(Continued)
- European Commission (EC)
 - The Food and Agriculture Organization of the United Nations (FAO)
 - International Atomic Energy Agency (IAEA)
 - International Labour Organization (ILO)
 - OECD Nuclear Energy Agency (NEA)
 - United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR)
 - World Health Organization (WHO)
 - The Pan American Health Organization (PAHO)
- 10.30 – 11.00 Coffee/Tea Break
- 11.00 – 12.30 Development of the IACRS member and observer organizations
(Continued)
- International Commission on Radiation Units and Measurements (ICRU)
 - International Electrotechnical Commission (IEC)
 - International Radiation Protection Association (IRPA)
 - International Organization for Standardization (ISO)
- 14.00 – 15.30 IACRS report/statement on Chernobyl 25th anniversary
- General discussion of the role/future activities of IACRS
- Other Business
- Date and venue of next IACRS meeting
- Closing of the IACRS Meeting
- 16:00 – 17.00 BSS Secretariat Meeting if necessary