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INTERNATIONAL CONFERENCE ON NATIONAL INFRASTRUCTURES FOR RADIATION SAFETY: TOWARDS EFFECTIVE AND SUSTAINABLE SYSTEMS

Rabat, Morocco
1 - 5 September 2003

Organized by the
International Atomic Energy Agency

In co-operation with the
World Health Organization
International Labour Office
European Commission and the
OECD Nuclear Energy Agency

Hosted by the
Government of Morocco through the
University Mohammed V, Agdal

ANNOUNCEMENT AND CALL FOR PAPERS

1. BACKGROUND

The International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources (BSS), published in 1996 as IAEA Safety Series No. 115, were jointly sponsored by the Food and Agriculture Organization of the United Nations (FAO), the International Atomic Energy Agency (IAEA), the International Labour Office (ILO), the Nuclear Energy Agency of the Organisation for Economic Co-operation and Development (NEA/OECD), the Pan American Health Organization (PAHO) and the World Health Organization (WHO). The BSS marked the culmination of international efforts towards harmonization of radiation protection and safety standards. In order to fully comply with the BSS a State must have all the elements of a radiation safety infrastructure appropriate to its level of usage of radiation and radioactive material.

Over the past decades the IAEA has conducted extensive programmes and made considerable efforts to strengthen and upgrade radiation safety infrastructures in its Member States. Despite significant progress in this area, numerous problems remain to be solved in a significant number of States before a satisfactory status of the overall infrastructure is achieved. Exchange of experience on how to assess components and elements of the infrastructure, how to identify shortcomings, how to implement required improvements or provide elements lacking, and how to assess the progress made will significantly contribute to the solution of these problems.

The last conference exclusively dealing with radiation safety infrastructure was organized by the IAEA in 1990 (Symposium on Radiation Protection Infrastructure, Munich, 7-11 May 1990). Important components of a radiation safety infrastructure were covered by some recent conferences organized by the IAEA in co-operation with other international organizations:

- International Conference of National Regulatory Authorities with Competence in the Safety of Radiation Sources and the Security of Radioactive Materials, Buenos Aires, Argentina, 11-15 December 2000 (as a follow-up of the International Conference on the Safety of Radiation Sources and the Security of Radioactive Materials, Dijon, France, 14-18 September 1998);

- International Conference on Radiological Protection of Patients in Diagnostic and Interventional Radiology, Nuclear Medicine and Radiotherapy, Malaga, Spain, 26-30 March 2001;

- International Conference on Occupational Radiation Protection: Protecting Workers against Exposure to Ionizing Radiation, Geneva, Switzerland, 26-30 August 2002.

These conferences resulted in findings and recommendations to a large extent related to the further development of relevant components of the national radiation safety infrastructures and the establishment and implementation of corresponding IAEA programmes. In the following, the major findings of the last three conferences are summarized.

In the Buenos Aires Conference the main emphasis was laid on strengthening the safety and security of radioactive materials by establishing and upgrading regulatory infrastructures, including an effectively independent regulatory body with adequately trained staff, by an appropriate management of disused sources, and by arrangements for dealing with orphan sources. Other important activities serving the same purpose are categorization of sources, improving response to abnormal events and emergencies including evaluation and information dissemination (lessons learned), fostering education and training as one of the key factors, acting against criminal activities, and establishing a Code of Conduct on the Safety and Security of Radioactive Sources.

The Malaga Conference emphasized the importance of appropriate quality assurance in diagnostic radiology (including film processing, radiation and beam quality and use of image intensifiers in fluoroscopy) as well as in nuclear medicine. Particular attention was paid to radiological protection issues in specific uses of diagnostic radiology such as mammography and CT as well as to interventional radiology. Guidance (reference) levels for medical exposures in radiology and nuclear medicine examinations should be developed and used. Special radiation protection measures are aimed at reducing doses to the embryo or foetus in pregnant patients, to paediatric patients and to patients in biomedical research. In radiotherapy tissues other than the target tissue have to be adequately protected. Standardization in design and development of radiological equipment should be promoted. Good education and training are essential prerequisites for optimizing protection against medical exposure. Regulating radiation protection of patients should be implemented in close liaison between regulators and medical and paramedical professionals including encouraging development of a safety culture in this area. It is essential to set priorities in establishing radiological protection of patients.

The overall message from the Geneva Conference was that, in general terms, occupational radiation protection over the past few decades has been a success for the international community. There is a solid downward trend of the annual average dose and the annual collective dose, but also of the number of workers exposed to high doses and the number of accidents and overexposures. However, most of these data relate to the nuclear fuel cycle; the picture is less encouraging for exposures in medicine and industry, and for exposures to natural sources, especially in mining of ores other than uranium. Major recommendations of the Conference are that international organizations should harmonize and, if possible, simplify their terminologies and their interpretations of requirements, especially those set out in conventions and standards, and should consider collaborating more closely, especially in building up and strengthening occupational radiation protection in developing countries. International organizations should avoid unnecessary changes in standards so that regulatory stability can be maintained and implementation carried through, and, in order to achieve better dissemination of information and lessons learned into the medical, industrial and mining areas, should consider whether systems similar to the ISOE could be established for these areas. International organizations should consider producing a package of information and training material designed to enable workers to fully participate as stakeholders in all aspects of radiation protection.

2. OBJECTIVE

The objective of the Conference is to provide a forum for information exchange on current issues related to the requirements for adequate national radiation safety infrastructures and their evolution towards sustainable and effective systems, and to formulate recommendations, as appropriate, regarding improved coherence internationally and resulting measures to strengthen international co-operation in this area. The Conference will be focusing on experience gained from the IAEA Model Projects on Upgrading Radiation Safety Infrastructures and conclusions to be derived from their implementation. A further main issue of the Conference will be the development of a sustainable system of education and training, since at the three conferences mentioned education and training measures were identified as necessary to build up competence and to develop human resources. This is a precondition for an adequate and functioning radiation safety infrastructure. Further issues to be discussed at the conference will be strengthening the effectiveness and efficiency of the work of the regulatory bodies as well as the resources and services needed to maintain an effective and sustainable infrastructure for radiation safety. Infrastructure requirements to ensure source security, to control occupational, medical and public radiation exposures and to develop emergency preparedness and response capabilities will also be on the Agenda of the Conference. All these issues have been the subject of unprecedented international efforts, mainly through the Agency's Technical Co-operation Programme (TCP). In addition, issues such as performance evaluation, stakeholder involvement and mechanisms for sharing experiences at the national and international level will also be discussed

3. AUDIENCE

The Conference is mainly aimed at representatives of regulatory bodies and other governmental officials and policy makers involved in decision making on matters with an impact on radiation safety. The Conference will be useful also for persons responsible for radiation protection services or for education and training in the field of radiation safety, and other experts qualified in relevant areas of radiation protection. In addition, designers, manufacturers, suppliers and users of radiation emitting apparatus and other radiation sources, radiation protection officers and other persons with responsibilities for implementation of radiation protection measures as well as representatives of international, regional and specialized organizations and other interested parties would also find this Conference of interest.

4. PROGRAMME STRUCTURE

The *opening session* will include welcoming addresses by representatives of the host Government, opening addresses by the IAEA and statements by the co-sponsoring and co-operating organizations, and a keynote address by the President of the Conference.

In a *background session* at the beginning of the Conference a keynote presentation will set aims, objectives and scope of the Conference based on a definition of an effective and sustainable infrastructure for radiation safety. This presentation will also establish the relations to the preceding three conferences in Malaga, Buenos Aires and Geneva by presenting their main results and relevant progress so far achieved, emphasizing the findings and recommendations relevant to radiation safety infrastructures. Moreover, an overview of all components and elements of a national infrastructure for radiation safety will be given (the 'ideal world') to provide for a framework for the sessions of the Conference where topical problems in developing effective and sustainable infrastructure systems will be discussed (the 'real world').

A series of *topical sessions* will cover selected topics relating to radiation safety infrastructure. Each topical session will be addressed by one or more Keynote speaker(s), introducing the topic and highlighting the main relevant issues, and the relevant contributed papers will be summarized by a Rapporteur. The presentations will be followed by a general discussion.

Posters of the contributed papers will be available for viewing and discussion.

A series of *round table sessions* will address controversial issues and seek recommendations for possible future actions.

Topical and round table session summaries for each day will be presented the following morning by the relevant Chairpersons.

The Conference will end with a concluding session at which the summaries of all topical and round table sessions will be condensed and presented by the President of the Conference as the Conference findings, conclusions and recommendations.

5. TOPICAL SESSIONS

In the following the keywords under the title of the topical sessions are not exhaustive but are meant to explain what might be covered and discussed. Other issues fitting in the framework are welcome. The topical sessions will cover:

TS1: **Stakeholder involvement in building and maintaining national radiation safety infrastructure (national and international)**

- Country experience with stakeholders' involvement;
- Expansion of stakeholders' involvement with evolution of the infrastructure;
- International organizations' involvement, including IGOs and NGOs.

TS 2: **Overview on the IAEA Model Projects (achievements, challenges and recommendations)**

- Keynote speaker from the IAEA on Model Projects on Upgrading Radiation Safety Infrastructures;
- Overview of history, achievements and challenges in implementing the Model Projects from the point of view of the Regional Managers (Single presentation summarizing the experiences of the Regional Managers with reference to their respective posters).

TS 3: **Implementation experience with the Model Projects (views from the countries, positive and negative experiences)**

- Keynote speaker with experience of peer reviews of the Model Projects;
- Experiences of the countries participating in the IAEA Model Projects (possible need for two Rapporteurs, yet to be decided, because of the expected large number of contributed papers);

  Note: The contributed papers should focus on positive and negative experiences and try not to give only an overview of the infrastructure status in the State.

TS 4: **Resources and services (systematic approach)**

- Priorities in the provision of services (dosimetry services for monitoring of external and internal radiation exposure, central dose record keeping, calibration services, radioanalytical laboratories, appropriate resources for quality management of medical equipment, technical advisory services, maintenance services, providers of emergency equipment, etc.);
- Outsourcing versus central provision of services (role of the regulatory body);
- National and regional services.

TS 5: **Sustainable education and training, developing skills (national systems and regional solutions)**

- Skill requirements analysis at various stages of development (keynote speaker);
- Mechanisms of sustainability of programmes (training of radiation protection officers, managers and workers, qualified operators, health professionals, staff of regulatory bodies, trainers and qualified experts, medical and paramedical professionals, emergency response personnel, and 'peripheral' persons such as customs officers or carriers for transport of radioactive material);
- National versus regional programmes, distance learning, e-learning, on-the-job training;
- Certification and recertification (retraining), mutual acknowledgement of qualifications.

TS 6: **Needs for education and training at the international level (including IAEA programmes assisting in establishing adequate infrastructures)**

- Keynote speaker on the IAEA strategy on education and training;
- Second Keynote speaker (European Commission);
- Need for international training activities from the States' viewpoint and relevant experience.

TS 7: **Authorization, inspection and enforcement (effectiveness and efficiency of the activities of the regulatory bodies)**

- Keynote speaker on a comprehensive programme and practical implementation, including a graded approach to regulatory requirements;
- Licensing of cross border situations;
- Quality assurance issues for regulators;
- Correct balance between enforcement and cooperation;
- Source inventory.

TS 8: **Source security and emergency preparedness (infrastructure requirements at the international, national and user's level)**

- Three Keynote speakers on source security, contingency planning for emergencies and medical preparedness;
- National programmes (problems and difficulties, achievements);
- Regional and international efforts.

TS 9: **Performance evaluation**

- Keynote speaker on assessment of effectiveness of infrastructures and programme implementation;
- Experiences of performance evaluation including self-assessment, audit and peer reviews.

6. ROUND TABLE SESSIONS

Round table sessions will be appropriately fitted into the Conference Programme according to the order of the topical sessions and will address the following issues:

RT1: **What are the issues from experience of implementing the Model Project on Upgrading Radiation Safety Infrastructures?**

- Legislation and regulations needed: Acts, Regulations, Codes of Practice and Guides;
- Prescriptive versus performance based requirements: fit with national approach to health and safety;
- Effective independence of regulatory body: from the start or evolving once a critical mass of expertise is achieved;
- Commitment to the projects and allocation of resources;
- Realistic and achievable performance criteria, acceptable compromises.

RT2: **Have we got the right training strategy for developing and sustaining knowledge and competence?**

- Professionals / qualified experts;
- Users: managers and workers (industrial, medical, research);
- 'Peripheral' persons (e.g. customs and security officers);
- National, regional and international initiatives;
- Attracting and keeping young professionals;
- 'Portability' of qualifications.
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RT3: **How can we improve mechanisms for sharing experiences at the national and international levels?**

- Capturing important case studies and lessons to be learned, e.g. accident databases;
- Use of networks to exchange information and ideas: e.g. European ALARA Network and the Central and Eastern European ALARA Network;
- Getting the information to the users and workers: leaflets, newsletters and websites;
- Future support by international organizations.

RT4: **What are the features of infrastructure requirements to control occupational, medical and public exposures? How do we set priorities to optimize protection?**

- 3 short presentations of the panelists on each type of exposure as introduction to a discussion.

RT5: **Lessons learned and future actions**

- Taking into consideration the results already achieved in the discussions at the Conference, this round table session addresses topical issues in the area of radiation protection, e.g. as discussed in ICRP and other international organizations, which may have an impact on future safety requirements and thus on future infrastructure components.

7. CONTRIBUTED PAPERS AND POSTERS

Concise papers on issues falling within the scope of the topical sessions (see Section 5 above) are welcome as contributions to the Conference. These papers will not be presented orally, but will be summarized by a Rapporteur (as indicated in Section 4 above) and included in a Compendium of Contributed Papers to be distributed free of charge to all participants upon registration. Questions relating to the contributed papers can be put at an appropriate Topical Session. Authors of contributed papers are encouraged to present the substance of their papers in the form of **Posters**, which will be exhibited in a Poster Area. It is expected that a least one author of each contributed paper will attend the Conference.

The contributed papers must not exceed four pages in length and must be submitted in English. Each contributed paper must be preceded by an abstract, not exceeding 200 words. Authors should state to which technical session topic their contribution relates (see Section 5). Authors are urged to make use of the IAEA's Proceedings Paper Template in Word 2000 and its user instructions available on the Conference webpage (Section 16). Guidelines for the preparation of a contributed paper are given in the attached "IAEA Guidelines for Authors on the Preparation of Manuscripts for Proceedings" and the "IAEA Guidelines for the Preparation of a Poster".

The contributed papers should be submitted to the following Email address:

papers.nirs@iaea.org

or sent on diskette to the Scientific Secretariat (see Section 15). The diskette label should identify the paper, the proposed session topic and the software application used (the use of Microsoft Word is encouraged). To permit selection and review, the electronic version of the contributed paper must be received by the Scientific Secretariat not later than **1 March 2003**.

In addition to the electronic submission, a copy of the contributed paper(s) must also be submitted through one of the competent official authorities (see Section 13) together with a completed Form for Submission of a paper **(Form B**) and the Participation Form **(Form A**) to reach the IAEA not later than **1 March 2003**.

Only papers that have been received by the above deadline and through the appropriate official channels will be considered for inclusion in the Book of Contributed Papers by a process of peer review. Furthermore, the Secretariat reserves the right to exclude papers that do not comply with its quality standards and do not apply to one of the topics in Section 5 above.

Papers that are not sent through the official channels and papers arriving after the deadline will not be considered.

8. DISTRIBUTION OF DOCUMENTS AND PROCEEDINGS

A preliminary programme of the Conference will be sent by airmail to all officially designated participants well in advance of the meeting and will also be available on the Conference website (see Section 16).

The final Programme and a Compendium of Contributed Papers containing all papers accepted by the Programme Committee will be available free of charge upon registration at the Conference.

The Proceedings of the Conference, to be published by the IAEA, will contain the welcoming addresses, the opening address by the President of the Conference, the keynote presentations, the Rapporteurs' reports, the Chairpersons' summaries, the Conference conclusions presented by the President of the Conference, and the records of the discussions. It will include a CD containing the Contributed Papers. The Proceedings can be ordered, at a discounted price, during the Conference.

9. PARTICIPATION

To be registered as a participant in the meeting the Participation Form (**Form A**) must be completed and transmitted to the IAEA through one of the competent official authorities (Ministry of Foreign Affairs, Ministry of Health or the national atomic energy authority). A participant can only be accepted if the Participation Form is transmitted to the IAEA by one of the official channels (see Section 13).

10. VENUE, DATES AND WORKING LANGUAGE

The Conference will be held at the University Mohammed V, Agdal, in Rabat, Morocco, from **1 to 5 September 2003**.

The working language of the Conference will be English.

11. EXPENDITURES/GRANTS

There is no registration fee for participation in the Conference.

As a general rule, the IAEA does not pay the cost of attendance, i.e. travel and living expenses, of participants. However, limited funds are available to help meet the cost of attendance of selected specialists mainly from developing countries with low economic resources. Generally, not more than one grant will be awarded to any one country.

If governments wish to apply for a grant on behalf of one of their specialists, they should address specific requests to the International Atomic Energy Agency to this effect. Governments should ensure that applications for grants:

a. be submitted by **1 March 2003**.

b. be accompanied by a duly completed and signed Grant Application Form (**Form C) (**as attached).

Applications which do not comply with these conditions cannot be considered.

The grants awarded will be in the form of lump sums usually covering only part of the cost of attendance.

12. ACCOMMODATION

Detailed information on accommodation and other administrative details will be sent to all officially designated participants approximately three months before the meeting. It will also be available on the Conference website.

13. CHANNELS OF COMMUNICATION

The Participation Form (Form A), and if applicable the Paper Submission Form (Form B) and/or the Grant Application Form (Form C) must be sent through one of the competent official authorities (Ministry of Foreign Affairs, Ministry of Health or national Atomic Energy Authority) for subsequent transmission to the IAEA. Subsequent communications concerning technical matters should be sent to the Scientific Secretary and communications on administrative/logistical matters to the Conference Organizer (see Section 15).

14. VISAS

Designated participants who require a visa in order to enter Morocco should submit the necessary application to the nearest diplomatic or consular representative of Morocco as soon as possible.

15. CONTACT PERSONS IN THE CONFERENCE SECRETARIAT

Technical matters and paper submission -- Scientific Secretary, IAEA

Mr. Khammar Mrabit
Head, Radiation Monitoring and Protection Services Section
Division of Radiation and Waste Safety
International Atomic Energy Agency
P.O. Box 100
Wagramer Strasse 5
A-1400 Vienna, Austria
Telephone: +43-1-2600-22722
Telefax No.: +43-1-26007
Email: K.Mrabit@iaea.org

Email address for paper submission: papers.nirs@iaea.org

Administrative matters -- Conference Organizer, IAEA

Ms. Regina Perricos
Conference Service Section
Division of Conference and Document Services
International Atomic Energy Agency
IAEA-CN-107
Vienna International Centre
P.O. Box 100, Wagramer Strasse 5
A-1400 Vienna, Austria, Europe
Telephone No.: +43-1-2600-21315
Telefax No.: +43 1-26007
Email: R.Perricos@iaea.org

16. CONFERENCE WEBPAGE

Please visit the following IAEA webpage where new information will be posted as it becomes available:
http://www-pub.iaea.org/MTCD/Meetings/Announcements.asp?ConfID=107