

## Chapter I

## International Atomic Energy Agency (IAEA)

In 2002, the International Atomic Energy Agency (IAEA) continued to act as a catalyst for the development and transfer of peaceful nuclear technologies; to build and maintain a global nuclear safety regime; and to assist in efforts to prevent the proliferation of nuclear weapons. In November, it resumed inspections in Iraq, ending the stalemate that had lasted since 1998. The Democratic People's Republic of Korea (DPRK) remained in non-compliance with the existing safeguards agreement pursuant to the 1968 Treaty on the Non-Proliferation of Nuclear Weapons, adopted by the General Assembly in resolution 2373(XXII) [YUN 1968, p. 17].

The forty-sixth session of the IAEA General Conference (Vienna, 16-20 September) adopted resolutions on improving the security of nuclear and other radioactive materials; strengthening international cooperation in nuclear, radiation, transport and waste safety; improving the effectiveness and efficiency of the safeguards system; strengthening IAEA technical cooperation activities; applying safeguards in the Middle East; implementing the safeguards agreement between IAEA and the DPRK and UN Security Council resolutions relating to Iraq; and measures to protect against nuclear terrorism.

In 2002, IAEA had 137 member States.

### Activities

#### *Nuclear safety and security*

IAEA continued to provide nuclear safety services and assistance worldwide. During the year, seven safety guides were published, which dealt with aspects of legal and governmental infrastructure for the safety of nuclear facilities. The Agency also undertook safety reviews, which showed a general improvement in the safety of nuclear power plants, implementation of corrective safety measures and progress in enhancing the effectiveness and technical capabilities of regulatory bodies. An international conference on safety culture in nuclear installations (Rio de Janeiro, Brazil, 2-6 December), highlighted the need for further development and use of assessment models as indicators of safety culture, more effective means for its enhancement and better definition of the regulator's role. In April, the second Review Meeting of

Contracting Parties to the Convention on Nuclear Safety [YUN 1994, pp. 925 & 1417] was held in Vienna. Although conclusions were encouraging with respect to legislation, regulatory independence, financial resources for regulatory bodies and operators of nuclear installations, implementation of safety improvements in installations built to earlier safety standards and emergency preparedness, the meeting acknowledged that certain areas warranted special attention, including the management of safety and safety culture, plant ageing and upgrading, maintaining competence and the effectiveness of regulatory practices.

An Advisory Group on Nuclear Security was established in January to provide advice on preventing, detecting and responding to malicious acts involving nuclear and other radioactive materials and nuclear facilities. In March, the IAEA Board of Governors approved proposals for protection against nuclear terrorism submitted by the Director General. By the end of 2002, implementation of the activities was well under way, with new and revised standards, guidelines and methodologies under development and an increase in assessment missions and training courses, especially those related to the physical protection of nuclear material and illicit trafficking.

#### *Radiation safety*

IAEA's radiation safety programme continued to focus on the development of a unified set of safety standards and their application; implementation of the Agency's radiation protection rules; and the provision of advice and services to member States. In 2002, more than 30 additional member States joined the Agency's technical cooperation model project on upgrading radiation protection infrastructures, bringing the number of participants to 87. An international conference on occupational radiation protection (Geneva, 26-30 August), convened jointly with the International Labour Organization, identified areas requiring greater attention. They included: harmonization of terminology and quantities; controlling occupational exposure to natural sources; protection of medical staff during interventional radiology; prevention of accidents in industrial radiography; and protection of pregnant workers. In September, the Board of Governors approved an action

plan to protect patients in diagnostic and interventional radiology. Work progressed on revising the Code of Conduct on the Safety and Security of Radioactive Sources and developing a new categorization system.

#### *Nuclear power*

IAEA continued to assist member States in planning and implementing programmes for the utilization of nuclear power, and supported them in achieving improved safety, reliability and economic cost-effectiveness of their nuclear power plants. The Agency organized an international symposium on nuclear power plant life management (Budapest, Hungary, 4-8 November), which addressed licence extension, retirement and decommissioning. It also assisted in convening a conference on nuclear desalination in Marrakesh, Morocco.

#### *Nuclear fuel cycle*

In 2002, IAEA and the Nuclear Energy Agency of the Organisation for Economic Co-operation and Development published *Environmental Remediation of Uranium Production Facilities*, which presented the results of a survey of member States' remediation activities. A document on technical aspects of improving proliferation resistance of the nuclear fuel cycle was prepared, which identified the technologies that could enhance proliferation resistance and outlined how the resulting improvements could be measured. The Agency convened a technical committee meeting on the causes and mitigation of fuel failures in water reactors. It helped to organize two international conferences on nuclear fuel, one on water chemistry in nuclear reactor systems (Avignon, France, 22-26 April) and the other on the characterization and quality control of nuclear fuels (Hyderabad, India, 10-13 December). IAEA also continued its work in spent fuel management, launched a new coordinated research project on optimizing storage cask capacity, convened a technical meeting on dry spent fuel storage technology and initiated activities on information development guidelines.

#### *Radioactive waste management*

IAEA member States agreed on a draft safety guide on radioactive waste that included a set of criteria in the form of levels below which materials were considered to be outside the scope of regulation. The Agency held two international conferences—one on safe decommissioning for nuclear activities: assuring the safe termination of practices involving radioactive materials (Berlin, Germany, 14-18 October) and the second

on issues and trends in radioactive waste management (Vienna, 9-13 December). In cooperation with Environment Australia and the Australian Radiation Protection and Nuclear Safety Agency, IAEA organized a symposium on the protection of the environment from ionizing radiation (Darwin, July).

#### *Marine environment and water resources*

In 2002, IAEA inaugurated an underground counting laboratory for low-level radionuclide measurements at its marine environment laboratory; developed a computer model to estimate the dispersion of radionuclides in the world's oceans; and upgraded its aquaria facilities to incorporate tropical regimes for radio-tracer studies of heavy metals from mining activities in tropical ecosystems. The Agency promoted quality assurance programmes to assist member State laboratories and regional laboratory networks in collecting environmental data and collaborated with the Caspian Environment Programme, involving the five Caspian littoral States of Azerbaijan, Iran, Kazakhstan, the Russian Federation and Turkmenistan, on a contaminant screening project and assisted in an overall assessment of marine pollution in the region.

#### *Food and agriculture*

In 2002, significant progress was made in tackling three constraints to sustainable agriculture in Africa—the tsetse fly and trypanosomes, through the sterile insect technique; rinderpest, and low reproductive efficiency of livestock, through better diagnostic and intervention packages; and the low productivity of crops and cropping systems by developing improved varieties and management practices using mutations and isotope techniques. The International Consultative Group on Food Irradiation requested its secretariat to determine the interest among member States in contributing to a new intergovernmental forum on food irradiation for improving the quality and safety of food supplies.

#### *Human health*

In 2002, new procedures, developed as a result of Agency activities, strengthened the role of isotope-based molecular methods in the management of important infectious diseases. The Agency convened an international symposium on cardiovascular nuclear medicine (Beijing, 27-31 May), which identified, among other things, the need to transfer information on nuclear cardiology to clinicians and to increase training in nuclear medicine and cardiology. The Agency also organized an international symposium on

standards and codes of practice in medical radiation dosimetry (Vienna, 25-28 November), which emphasized the importance of education and training of health-care workers and the need for improved infrastructural services in medical physics and diagnostic radiology.

#### **Technical cooperation**

In 2002, the IAEA technical cooperation programme budget reached an all-time high of \$98.1 million; \$74.8 million worth of training, expert services, equipment and other assistance was delivered to member States compared to \$71 million in 2001. A review of the technical cooperation programme yielded four new strategic objectives—strengthening of strategic partnerships, a stronger focus on sustainability through government commitment, fund-raising and programme development aimed at improving self-reliance of nuclear institutions.

#### **Safeguards responsibilities**

All information available to IAEA in 2002 led to the conclusion that, except for the nuclear material in the DPRK, all nuclear material and other items placed under safeguards remained in peaceful nuclear activities or were otherwise adequately accounted for. The Agency was unable to verify the DPRK's nuclear material under safeguards because of its interference with or removal of the Agency's containment and surveillance equipment at nuclear facilities and the expulsion of its inspectors. On 27 November, the Agency resumed inspections in Iraq (see p. 286) and verified the presence of nuclear material that had remained under safeguards, though no evidence was detected of prohibited nuclear or nuclear-related activities. IAEA stepped up efforts to encourage and facilitate the conclusion of safeguards agreements and additional protocols. In addition, it initiated a project to re-

engineer its safeguards information system for implementation over four years (2003-2006) and revised the *IAEA Safeguards Glossary*.

#### **Nuclear information**

In 2002, as a result of events in Iraq and the DPRK, there was accelerated public and media interest in the Agency's work. The IAEA-operated International Nuclear Information System (INIS) augmented the level and maintained the quality of input into the INIS database. A new intranet-based library and information system, *LISNet*, which offered improved navigation and organization of information sources based on the INIS classification scheme, was launched in September. Greater efforts were also made to ensure round-the-clock security of IAEA's information technology infrastructure in the light of increased use and the rising number of intrusion attempts and virus attacks.

#### **Secretariat**

At the end of 2002, IAEA secretariat staff totalled 2,229, including 1,000 in the Professional and higher categories and 1,229 in the General Service category.

#### **Budget**

The 2002 regular budget amounted to \$217.5 million, of which \$207.6 million was financed from assessed contributions by member States, \$4 million from income from reimbursable work, \$4.1 million from miscellaneous income and \$1.8 million from part of the 1999 cash surplus. Actual budget expenditure amounted to \$214.1 million. A total of \$67.3 million in extra-budgetary funds was provided by member States, the United Nations, international organizations and other sources.

NOTE: For further information, see *Annual Report 2002*, published by IAEA.

#### **HEADQUARTERS AND OTHER OFFICE**

##### **HEADQUARTERS**

International Atomic Energy Agency  
P. O. Box 100  
Wagramerstrasse 5  
A-1400 Vienna, Austria  
Telephone: (43) (1) 2600-0  
Fax: (43) (1) 2600-7  
E-mail: Official.Mail@iaea.org

##### **NEW YORK LIAISON OFFICE**

International Atomic Agency Liaison Office at the United Nations  
1 United Nations Plaza, Room 1155  
New York, NY 10017, United States  
Telephone: (1) (212) 963-6010/6011  
Fax: (1) (917) 367-7046