

Nuclear Security

Objective

To contribute to global efforts to achieve effective security of nuclear or other radioactive material, by supporting national and international efforts to establish and maintain effective nuclear security. To assist adherence to and implementation of nuclear security related international instruments and to strengthen the international cooperation and coordination of assistance in a way that underpins the use of nuclear energy and applications.

Nuclear Security Plan

The Agency's nuclear security programme assists States in improving their national nuclear security. In this regard, the Agency continued implementing the *Nuclear Security Plan 2010–2013*, the third such plan to be approved by the Board of Governors. A fourth plan, covering the period 2014–2017, was approved by the Board of Governors in September.

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International Cooperation and Coordination

In July, the Agency convened the International Conference on Nuclear Security: Enhancing Global Efforts. The conference, held in Vienna, was attended by more than 1300 participants from 125 Member States, including 34 representatives at the ministerial level, and by representatives from 21 organizations. In his opening address, the Director General highlighted the need to bring into force the 2005 Amendment to the Convention on the Physical Protection of Nuclear Material (CPPNM), as well as the benefit that all States could gain by inviting peer reviews of their nuclear security arrangements by international experts and by making use of the Agency's nuclear security guidance.¹ The main conclusions of the conference reflected these priorities, and the conference

¹ See: <http://www.iaea.org/newscenter/statements/2013/amsp2013n15.html>.

itself informed the development of the Agency's *Nuclear Security Plan 2014–2017*. The Ministerial Declaration adopted by consensus at the conference² urged the Agency to continue developing and publishing nuclear security guidance, and encouraged all States to take the guidance into account, as appropriate, in their efforts to strengthen and continuously improve their nuclear security. It also affirmed the central role of the Agency in strengthening the nuclear security framework globally and in leading the coordination of international activities in the field of nuclear security, while avoiding duplication and overlap. A report on the conference was presented to the September 2013 Board of Governors and the 57th General Conference.³

General Conference resolutions on nuclear security have encouraged the Secretariat to continue to play a constructive and coordinated role, in coordination with Member States, in other nuclear security related initiatives. In this regard, the Agency organized two Information Exchange Meetings, in May and December, which were attended by more than 25 participants from 12 organizations. Cooperation and coordination were also



FIG. 1. A radiation portal monitor at the border between Thailand and Malaysia. This device detects radiation in real time, without interrupting normal import–export operations.

promoted through the efforts of the Border Monitoring Working Group, which met twice in 2013 to discuss border monitoring training and implementation, as well as joint activities in border monitoring (Fig. 1). The Working Group on Radioactive Source Security met in 2013 to improve the provision of technical assistance related to the protection and control of radioactive sources.

² After the adoption of the Ministerial Declaration, one Member State made a statement to express reservations but did not object to reaching consensus on the document. See: <http://www-pub.iaea.org/iaeameetings/cn203p/RussianFederation-PDF.pdf>.

³ GOV/INF/2013/9-GC(57)INF/6.

Incident and Trafficking Database

Membership in the Agency's Incident and Trafficking Database (ITDB) increased, with another six States joining in 2013. During 2013, 146 incidents were reported, including four incidents that involved Category 1–3 radioactive sources in unauthorized activities⁴. Three of these four incidents were reported as thefts.

Peer Reviews and Advisory Services

The modularization of the peer review and advisory services undertaken by the Agency at the request of Member States continued during the year. The goal is to streamline the assistance provided and allow States to select modules depending on their specific needs. The modules currently available in the International Nuclear Security Advisory Service (INSServ) address institutional infrastructure, detection and response systems and measures, and nuclear security at major public events.

In 2013, the Agency completed: three INSServ Detection and Response Systems and Measures missions, to Albania, Chile and Tunisia; one INSServ Institutional Infrastructure mission, to Chile; and six INSServ Nuclear Security at Major Public Events missions, to Belarus, Cambodia, Malaysia, Sri Lanka, Zambia and Zimbabwe. In addition, the Agency undertook four International Physical Protection Advisory Service (IPPAS) missions, to Australia, Hungary and the USA, and to the Agency's Laboratories in Seibersdorf, the first ever to an Agency facility. To share experience as well as lessons learned, and to discuss improvement of the service, the Agency organized an international seminar on IPPAS, held in December in Paris.

Integrated Nuclear Security Support Plans

The Ministerial Declaration issued at the International Conference on Nuclear Security held in July noted the important role that Integrated Nuclear Security Support Plans (INSSPs) play in assisting efforts by States to establish effective and sustainable national nuclear security regimes. The INSSP programme grew significantly in 2013: seven Member States formally approved their INSSPs, an additional 13 Member States finalized new INSSPs with the Agency and are in the process of approving them, and ten Member States with existing INSSPs held joint review meetings with the Agency. Together, these efforts have allowed the Agency to gather information on needs for nuclear security improvements in Member States, and to ensure that the Agency is prepared

⁴ The ITDB categorizes sealed radioactive sources on a scale of 1 to 5, in accordance with IAEA Safety Standards Series No. RS-G-1.9. Exposure of only a few minutes to a Category 1 source can be fatal. Category 5 sources are potentially the least dangerous; however, even these sources could give rise to doses in excess of the safe limits if not properly controlled.

to meet State requests for nuclear security assistance in a timely manner.

In 2013, the Agency released a web based platform designed to assist Member States in reviewing the status of their nuclear security infrastructure, and in tracking their progress towards establishing, maintaining and sustaining an effective nuclear security regime. The system, known as the Nuclear Security Information Management System (NUSIMS), is intended to facilitate the identification and prioritization by States, on a voluntary basis, of their nuclear security needs and to allow the Agency, upon request, to provide a more tailored approach to address those needs.

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Promotion of the Nuclear Security Framework

Despite being adopted in 2005, the Amendment to the CPPNM still has not entered into force. During 2013, ten States ratified, accepted or approved the Amendment to the CPPNM. The Agency organized two workshops to promote adherence to and implementation of the CPPNM Amendment: one in Beijing in April, and one for French-speaking African States, held in November in Brussels.

To assist States in meeting their obligations under the nuclear security framework, the Agency publishes guidance in the IAEA Nuclear Security Series. Three publications were issued during the year, including *Objective and Essential Elements of a State's Nuclear Security Regime* (the Nuclear Security Fundamentals), the top level publication in the series.

The guidance was drawn up with input from Member States through the Nuclear Security Guidance Committee (NSGC). The committee met twice in 2013 to review and approve publication drafts and proposals. The NSGC also reviewed and advised the Secretariat on a plan for publications in the IAEA Nuclear Security Series.

Building Capacity

The important role of education and training in helping States, upon request, to establish effective and sustainable national nuclear security regimes continues to be widely recognized. The Agency conducted 88 training events during the year, covering all aspects of nuclear security and involving more than 2000 people. Among the topics covered were cybersecurity, physical protection of nuclear



FIG. 2. Secure storage at a facility in Ghana incorporating various types of physical barrier to prevent theft of and unauthorized access to radioactive material.

and other radiological material (Fig. 2), and nuclear security infrastructure for newcomers.

In 2013, six national Nuclear Security Support Centres (NSSCs) were established by Member States. The International Network for Nuclear Security Training and Support Centres, established by the Agency to facilitate collaboration between such centres, continued to develop. The network currently has 98 members from 39 Member States and seven international organizations.

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Five European universities launched a pilot European Master of Science degree programme, using the curriculum and peer reviewed teaching materials and textbooks prepared by the International Nuclear Security Education Network (INSEN) with Agency assistance. In addition, Chulalongkorn University in Thailand launched a Master of Science programme on nuclear safeguards and security, based largely on the INSEN materials and curriculum.

INSEN has over 95 member institutions from almost 40 Member States. Member institutions are implementing various modules of the INSEN nuclear security education curriculum using the peer reviewed materials. To enhance the capacities of these member institutions to deliver high quality nuclear security education programmes, the Agency initiated a coordinated research activity on Enhancing

Nuclear Security Education Infrastructure through the Development of a Mentor/Protégé Programme.

The Agency also conducted the third annual two-week intensive school for young professionals in nuclear security at the Abdus Salam International Centre for Theoretical Physics in Trieste, Italy, in April. A total of 47 participants from 39 Member States attended.

Major Public Events

The Agency supported six major public events in 2013, in Brazil, Cambodia, Malaysia, Sri Lanka, Zambia and Zimbabwe. Assistance provided at the request of the Member States concerned included the provision of reports from the ITDB, and the loan of equipment and associated training.

Radiological Crime Scene Management

A training curriculum on radiological crime scene management was finalized in 2013 aimed at strengthening the ability of Member States to ensure safe, effective and efficient operations at a crime scene where nuclear or other radioactive materials are known or are suspected to be present. To identify areas for further improvement of the training curriculum, a pilot workshop on the subject was conducted in the Czech Republic in November.

Provision of Equipment to Member States

The Agency provided expert advice and equipment to States for detecting and responding to the unauthorized movement of nuclear and other radioactive material, and for physical protection upgrades. For example, acceptance tests of 658 portable radiation detection instruments were performed and ten radiation portal monitors were installed. In addition, there were 39 shipments to Member States for the donation and loan of instruments.

Nuclear Security Fund

In the course of the year, financial pledges to the Nuclear Security Fund were accepted by the Agency in the amount of €25.7 million. The €25.7 million comprised financial contributions from Australia, Belgium, Canada, China, Estonia, Finland, France, Italy, Japan, the Republic of Korea, the Netherlands, New Zealand, Romania, the Russian Federation, Spain, the United Kingdom, the United States of America, the European Commission, one private company and several minor contributors. In kind contributions of over €269 000 were also received.