Nuclear Security

Objective

To contribute to global efforts to achieve effective nuclear security, by establishing comprehensive nuclear security guidance and providing for its use through peer reviews and advisory services and capacity building, including education and training. To assist in adherence to, and implementation of, relevant international legal instruments, and to strengthen the international cooperation and coordination of assistance in a way that underpins the use of nuclear energy and applications. To play the central role and enhance international cooperation in nuclear security, in response to General Conference resolutions and Board of Governors directions.

Nuclear Security Plan 2018–2021

At its September meeting, the Board of Governors approved the Nuclear Security Plan 2018–2021. The Plan provides details of proposed Agency nuclear security activities for the period 2018–2021. It corresponds to the priorities of Member States expressed through the decisions and resolutions of the Agency's Policy-Making Organs, as well as priority setting for IAEA Nuclear Security Series guidance recommended by the Nuclear Security Guidance Committee.

International Conference on Physical Protection of Nuclear Material and Nuclear Facilities

The Agency organized the International Conference on Physical Protection of Nuclear Material and Nuclear Facilities, held at its Headquarters in November. The conference, comprising six main panel sessions and 39 technical sessions, was attended by some 700 participants. The topics addressed included, inter alia, universal adherence to the Convention on the Physical Protection of Nuclear Material and its Amendment; protection against unauthorized removal of nuclear material during use, storage and transport; protection against sabotage of nuclear material and facilities; legislative and regulatory requirements; nuclear security culture; physical protection regimes; design basis threat; training and capacity building; and nuclear security during transport.

Nuclear Security Guidance

The Agency continued to develop comprehensive guidance on nuclear security. The Nuclear Security Guidance Committee, comprising representatives of 69 Member States, met twice during 2017. A working group was convened to update the roadmap for the

IAEA Nuclear Security Series publications by identifying further priorities for guidance development and review. The November meeting concluded the Committee's second three year term.

Needs Assessment

In 2017, the Agency introduced a revised Integrated Nuclear Security Support Plan (INSSP) template that resulted in more comprehensive and better structured reports and helped States improve their needs assessments. The Agency also made more systematic use of the Nuclear Security Information Management System (NUSIMS) self-assessment questionnaires in combination with the new template in order to ensure the consistency and complementarity of the two assessment tools.

Capacity Building in Regulatory Frameworks for Nuclear Security

The Agency, on request, provided assistance in establishing and enhancing regulatory frameworks for nuclear security. It also conducted training to enable States to build capacity in drafting nuclear security regulations and carried out expert missions to review States' nuclear security regulations. During 2017, the Agency launched a project to enhance national regulatory frameworks for nuclear security in African States. In this context, it held a regional workshop, in Morocco in April, and two regional training workshops, which focused on the development and drafting of regulations to support national nuclear security regimes, in the Niger (May) and Zambia (October). The workshops were attended by 143 participants from 39 States.

Risk Reduction

The Agency continued to support States in their efforts to protect radioactive sources during and at the end of their useful life (Fig. 1). Physical protection upgrades to existing and new facilities using high activity radioactive sources were initiated in five countries, upon their request, in Asia and Latin America, and the Agency removed Category 1 and 2 disused sealed sources from two countries in Latin America.

FIG. 1. The Agency conducted a training course on physical protection at Japan's Nuclear Security Support Centre in June. Participants gained hands-on experience at the Centre's physical protection exercise field and mock facility.

In support of risk reduction activities, a pilot project for implementation of the borehole disposal concept for disused sealed sources in Ghana and Malaysia neared its final stages. In 2017, the safety cases and security plans were finalized for evaluation and approved by the respective regulatory bodies.

Tool for Radiation Alarm and Commodity Evaluation (TRACE)

The Agency launched a mobile application called Tool for Radiation Alarm and Commodity Evaluation (TRACE) in June. The application helps customs and other front line officers to quickly determine whether radiation alarms at border crossings are caused by naturally occurring radioactive material in goods or whether they could indicate nuclear or other radioactive material out of regulatory control. The application provides accurate, detailed information on commodities and their radiological characteristics and is available for both Apple and Android devices. It was developed as part of a coordinated research project involving experts from 20 Member States.

Advisory Services

In 2017, the Agency conducted International Physical Protection Advisory Service (IPPAS) missions to China, the Democratic Republic of the Congo, Germany and Lithuania, and follow-up IPPAS missions to Australia and Hungary, bringing to 81 the total number of IPPAS and IPPAS follow-up missions conducted to date. In October, the Agency held its third International Workshop on the International Physical Protection Advisory Service to expand the pool of experts for IPPAS missions. The workshop, held in Vienna, was attended by 54 experts from 29 Member States.

Major Public Events

In 2017, the Agency provided assistance in implementing nuclear security systems and measures for major public events to Gabon, Indonesia, Kazakhstan (Fig. 2), Malaysia, Mali,

FIG. 2. A participant in an Agency training event on the use of radiation detection instruments in Kazakhstan, in May. The training event was part of efforts to ensure that nuclear security measures and systems were in place for Expo 2017.

Morocco, Panama, the Philippines, Romania, Ukraine and Uzbekistan. This included five coordination meetings with counterparts to agree on the types of assistance to be provided by the Agency, and 11 international, regional and national training events. The Agency also loaned a total of 370 radiation detection instruments for use related to major public events and, prior to five major public events, provided analysis reports addressing recent Incident and Trafficking Database data related to the country and region of the event.

The Agency finalized a new training curriculum to provide assistance to States hosting major public events (MPEs). A Regional Workshop on Developing and Implementing Nuclear Security Systems and Measures for MPEs was held in Tokai, Japan, in August.

The Agency procured 161 additional radiation detection instruments, expanding the equipment available for loan to Member States.

Incident and Trafficking Database

In 2017, El Salvador and Liechtenstein joined the Incident and Trafficking Database (ITDB) programme. During the year, States confirmed 166 incidents to the ITDB; 139 involved radioactive sources and radioactively contaminated material and 27 incidents involved nuclear material. Five reported incidents involved acts of trafficking or malicious use. A new on-line system for reporting incidents and a new on-line tool for querying the database were released to ITDB Points of Contact. The Agency also launched a project to improve the quality of legacy data in the ITDB by standardizing the data collected from all available incident reports since the inception of the ITDB, and by aligning the contents of the database and the incident notification form.

Nuclear Security Fund

In 2017, financial pledges to the Nuclear Security Fund amounting to €44.1 million were accepted by the Agency. These pledges included financial contributions from 16 Member States and the European Commission.