
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.

Promotion of the Nuclear Security Framework

The Amendment to the Convention on the Physical Protection of Nuclear Material (CPPNM) entered into force on 8 May 2016, following its ratification by Uruguay and Nicaragua, on 8 April 2016. While the CPPNM covers physical protection of nuclear material during international transport, the Amendment requires States Parties to establish, implement and maintain an appropriate physical protection regime, including a legislative and regulatory framework, for the physical protection of nuclear facilities and nuclear material in peaceful domestic use, storage and transport. It expands the existing offences identified in the CPPNM and establishes new ones, such as the ‘smuggling’ of nuclear material and ‘sabotage’ of nuclear facilities. It also provides for expanded cooperation between and among States Parties regarding, inter alia, rapid measures to locate and recover stolen or ‘smuggled’ nuclear material. During the year, 16 States ratified the Amendment to the CPPNM; at the end of 2016, 48 States Parties to the CPPNM still had to ratify the Amendment, and the Agency’s Secretariat continued to direct its efforts towards ‘universalization’ of the Amendment.

In December, the Agency organized the Second Meeting of the Representatives of the States Parties to the CPPNM and the CPPNM Amendment to discuss the new obligations under the CPPNM Amendment, focusing on issues relating to information sharing. The participants shared their national experience in adhering to and implementing the CPPNM Amendment. The need to promote universal adherence to the Amendment was highlighted during the meeting, which was attended by 119 participants from 71 States Parties to the CPPNM.

Nuclear Security Guidance

The Agency continued to develop comprehensive guidance on nuclear security, with the active involvement of experts from Member States. The Nuclear Security Guidance

Committee met twice during 2016; since its inception in 2012, 67 Member States have nominated representatives to the Committee.

Capacity Building in Nuclear Security

The Agency organized a total of 97 international, regional and national nuclear security related training courses and workshops in 2016, addressing all areas of nuclear security and providing training to more than 2100 participants from 128 States.

The sixth Joint IAEA–ICTP International School on Nuclear Security was held at the Abdus Salam International Centre for Theoretical Physics (ICTP) in Trieste, Italy, in April, providing a comprehensive introduction to the field of nuclear security to 47 participants from 47 Member States. Regional Schools using the same curriculum were held in Jakarta, Indonesia, with 36 participants from 13 Member States; and the first course in Arabic was held in Cairo, Egypt, with 33 participants from 14 States. In 2016, as part of a fellowship programme, the Agency supported seven students from five developing countries in a master’s programme in nuclear security established at the University of National and World Economy, in Sofia, Bulgaria, in 2015.

The Agency continued to coordinate education and training efforts through its networks. The annual meeting of the International Network for Nuclear Security Training and Support Centres (NSSC Network) was held in Islamabad, Pakistan, in March. In August, the Agency hosted the annual meeting of the International Nuclear Security Education Network (INSEN).

The Agency continued to implement activities under the Nuclear Security Plan 2014–2017 to enhance national capacities to protect nuclear and other radioactive material, and to detect material outside of regulatory control. In doing so, it worked with States to upgrade the security of medical and industrial facilities, and to securely manage disused sources through recycling, repatriation, storage and disposal activities. The Agency donated 736 hand-held radiation detection instruments, including associated software packages, and deployed nine radiation portal monitors in Member States.

International Conference on Nuclear Security: Commitments and Actions

The Agency organized the International Conference on Nuclear Security: Commitments and Actions, held in Vienna, Austria, in December (Fig. 1). The conference was attended by some 2100 participants from 139 Member States, 47 of which were represented at Ministerial level. A Ministerial Declaration¹ was adopted that, inter alia, reasserted that responsibility for nuclear security within a State rests entirely with that State; underlined the importance of keeping pace with evolving challenges and threats to nuclear security; and recognized the central role of the Agency in facilitating and coordinating international cooperation. Conference participants underscored the commitment of the international community to nuclear security and the unique platform the Agency offers to assist States in further strengthening a global response to a global threat.

The conference’s scientific and technical sessions addressed a range of topics, including: evolving challenges and threats to nuclear security; identifying gaps in and strategies for the secure management of radioactive material; international instruments for nuclear security; nuclear forensics; computer security for industrial control systems in nuclear facilities; public engagement on nuclear security; and nuclear security education.

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¹ Available at: https://www.iaea.org/sites/default/files/16/12/english_ministerial_declaration.pdf



FIG. 1. Director General Yukiya Amano and Mr. Yun Byung-se, Foreign Minister of the Republic of Korea and Conference President, preside over the International Conference on Nuclear Security: Commitments and Actions, held in Vienna in December.

Improving the Advisory Services

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Since the first International Physical Protection Advisory Service (IPPAS) mission was conducted to Bulgaria in 1996, the Agency has conducted a total of 75 IPPAS missions for 47 States and the Agency’s Laboratories in Seibersdorf, Austria. In 2016, the Agency conducted IPPAS missions to Albania, Malaysia, Poland, Sweden, the United Arab Emirates and the United Kingdom.

To improve the sharing of best nuclear security practices among Member States, the Agency established a database of good practices identified in Member States during the conduct of IPPAS missions. The Agency organized the second International Seminar to Share Experience and Best Practices from Conducting International Physical Protection Advisory Service Missions, in November, in London, United Kingdom. The seminar was attended by 87 participants from 36 Member States, who shared the lessons learned and discussed the benefits of IPPAS missions and their follow-up activities, and considered options for enhancing the service.

Incident and Trafficking Database

In 2016, Gabon, Libya and Swaziland joined the Incident and Trafficking Database (ITDB) programme. States confirmed 189 incidents to the ITDB. While most of these incidents involved radioactive sources and radioactively contaminated material, States confirmed 33 incidents involving nuclear material. The proportion of these incidents that involved a confirmed or likely act of trafficking or malicious use was small, with a total of nine incidents of this type reported. A new conceptual framework, approved in 2015 at the meeting of Points of Contacts to the ITDB, was implemented in order to improve the reporting, classification and analysis of incidents.

Nuclear Security Fund

In the course of 2016, financial pledges to the Nuclear Security Fund were accepted by the Agency in the amount of €47.4 million. These pledges included financial contributions from Belgium, Canada, China, Estonia, Finland, France, Germany, India, Italy, Japan, the Republic of Korea, New Zealand, Romania, the Russian Federation, Spain, Switzerland, the United Arab Emirates, the United Kingdom, the United States of America and other contributors. The Agency received in-kind contributions of €134 873 from Germany pertaining to training delivered to experts from Lebanon on chemical, biological, radiological and nuclear material, and of US \$42 000 from Israel for 14 portable radiation detectors.