Nuclear Security

Objective

To contribute to global efforts to achieve effective nuclear security, by establishing comprehensive nuclear security guidance and promoting 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 in strengthening the international cooperation and coordination of assistance in a manner 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.

The Convention on the Physical Protection of Nuclear Material (CPPNM) and Its Amendment

The Secretariat intensified its efforts in 2021 to assist Parties in preparing for the Conference of the Parties to the Amendment to the Convention on the Physical Protection of Nuclear Material, which is planned to be held from 28 March to 1 April 2022. In February 2021, the Agency held a virtual meeting of the Preparatory Committee for the Conference, which undertook relevant preparations, including the development of draft Rules of Procedure and a draft annotated agenda, for the 2022 Conference. Over 240 participants representing more than 90 Parties to the CPPNM and its Amendment, as well as Parties to the CPPNM only, participated in the meeting. The Agency also held a series of virtual regional meetings in November and December 2021; and two rounds of open-ended consultations in October and December 2021 to assist Parties to prepare for the 2022 Conference, which were attended by 183 participants from 63 States and the European Atomic Energy Community.

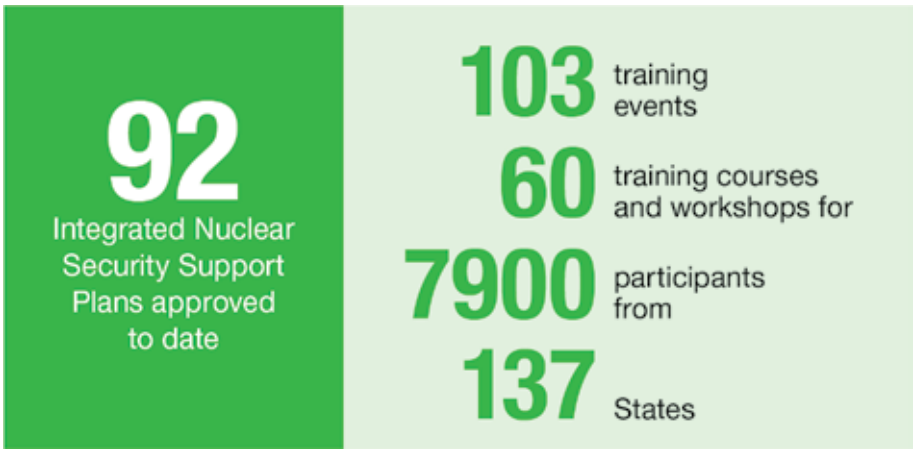
The Agency continued encouraging universal adherence to, and effective implementation of, the CPPNM and its Amendment, and provided technical and legislative assistance, upon request. The Agency sent letters in March 2021 to States not party to the CPPNM, as well as to those that are party to the CPPNM but not to its Amendment, urging them to join the CPPNM and/or its Amendment. To mark the fifth anniversary of the entry into force of the Amendment on 8 May 2021, the Director General addressed States via a video message. The Agency conducted a series of four webinars to promote the universalization of the CPPNM and its Amendment in August 2021, which were attended by about 200 participants from 62 States. In addition, the Agency conducted a virtual international seminar and regional workshops for Russian speaking countries, Western Asia and the Middle East in May 2021, and for Africa in December 2021. A further four States became party to the CPPNM or its Amendment in 2021.

Nuclear Security Guidance

Three new IAEA Nuclear Security Series guidance publications and three revisions of existing publications were issued. The new publications address nuclear security culture, computer security for nuclear security, and the design of physical protection systems for nuclear material and nuclear facilities. At the end of 2021, the IAEA Nuclear Security Series comprised 42 publications.

Needs Assessment and Capacity Building

Two Member States approved Integrated Nuclear Security Support Plans, bringing the total number of approved plans to 92. The Agency conducted 103 training events, including 60 training courses and workshops, for 7900 participants from 137 States. This included the first two Schools on Nuclear Security for the Marie Skłodowska-Curie Fellowship Programme, with over 50 participants overall.



The Agency continued to provide related e-learning opportunities, with over 1500 users from 125 States completing over 2600 e-learning modules in 2021.

Risk Reduction

The Agency continued to support Member States in protecting nuclear and other radioactive material during and after use. The Agency assisted in the removal of 3 high activity disused radioactive sources from 2 Member States, continued to support the ongoing removal of 31 high activity disused radioactive sources in 2 Member States and preparatory work for the removal of an additional 18 sources from 4 Member States, and

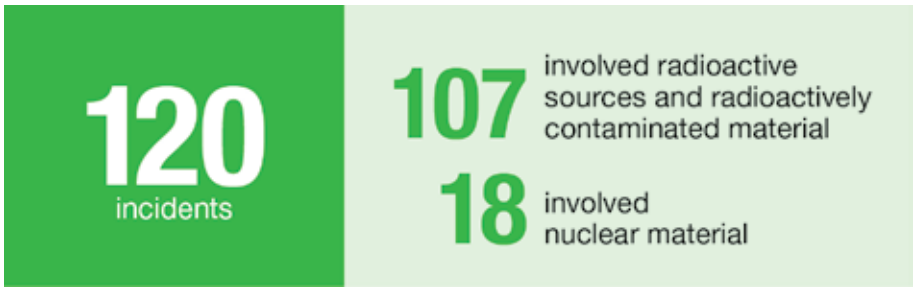
assisted in the consolidation of 9 high activity disused radioactive sources in 1 Member State. In addition, the Agency completed physical protection upgrades in four Member States at three research reactors and one nuclear power plant. It also provided assistance in drafting nuclear security regulations to eight Member States.

Major Public Events

In 2021, the Agency provided assistance to 7 Member States to strengthen nuclear security measures on the preparation and support for 7 major public events, including loaning a total of 760 radiation detection instruments.

Incident and Trafficking Database

In 2021, States reported 120 incidents to the Incident and Trafficking Database: 107 involved radioactive sources and radioactively contaminated material and 18 involved nuclear material, with 5 incidents involving more than 1 of the aforementioned types of material. A total of 7 reported incidents involved acts of trafficking or malicious use, while there were 24 reported incidents in which the intent to conduct trafficking of malicious use could not be determined.



Nuclear Security Fund

In the period 1 January to 31 December 2021, the Agency accepted pledges and received contributions to the Nuclear Security Fund in the amount of €30 383 344 from the following Member States: China, the Czech Republic, Denmark, Finland, France, Japan, the Republic of Korea, New Zealand, Norway, the Russian Federation, Spain, Switzerland, the United Kingdom and the United States of America, among other contributors.

CASE STUDY

Strengthening Transport Security in the Republic of Moldova

In 2021, the Agency donated a specialized cargo vehicle to the Republic of Moldova in order to facilitate the safe and secure transport of radioactive sources to designated specialized storage locations, in turn supporting the country's efforts towards strengthening its national nuclear security infrastructure.

"In recent years, the security of radioactive material has been highlighted as a key priority for the Republic of Moldova, particularly related to locating and securing orphan sources — sources that are lost, missing or were just never registered — and transporting them to secure storage facilities," said Iulian Gisca, Director of the Moldovan National Radioactive Waste Management Company. "Part of this is ensuring that when these sources are located, they can be safely and securely transported to designated storage facilities. For this reason, this specialized cargo vehicle is vital."

There are several radioactive sources in the Republic of Moldova, as well as small quantities of nuclear material which are used in medical and industrial applications and for research purposes. The application of nuclear science and technology in the Republic of Moldova has been supported by the Agency through its Technical Cooperation Programme. The programme supports relevant authorities to ensure the safety and security of nuclear and other radioactive material during their use and storage.

Worldwide, an estimated 20 million shipments of radioactive material take place every year. The Agency assists governments and stakeholders in enhancing their capabilities, to ensure both the safety and the security of nuclear and other radioactive material during transport — as well as during its use and storage.

This vehicle, donated by the Agency, has advanced features which support the Republic of Moldova in enhancing its transport security capabilities.

In order to assess the Republic of Moldova's capabilities for the security of radioactive material during its use, storage and transport, Agency experts visited the country in 2018. Subsequently, they recommended the purchase of a specialized truck to enable the safe and secure transport of radioactive sources.

The requirements for the vehicle were drawn up by the Moldovan National Radioactive Waste Management Company, the National Agency for the Regulation of Nuclear and Radiological Activities (ANRANR) and international experts, with help from the Agency. "The vehicle's state of the art security system includes sophisticated detection measures, delay barriers, and tracking and communication capabilities, which will significantly support Moldova's transport security capabilities," said David Ladsous, Head of the Agency's Transport Security Unit. "This vehicle donation is just one way in which the Agency assists countries in the development of their national physical protection regimes for the transport of nuclear and other radioactive material," explained Elena Buglova, Director of the Agency's Division of Nuclear Security. "This support helps the international community to protect people, property and the environment from malicious acts that could occur during transport."

The Agency is also helping the Republic of Moldova to draft transport security regulations and to conduct training courses for national nuclear authority personnel. Following a successful workshop on transport security exercises, held in Romania at the start of 2021, a regional workshop on the topic was also conducted, in order to support coordination between the Republic of Moldova and Romania for safe and secure cross-border shipments of radioactive sources.