

Nuclear Security

Objective

To improve the worldwide security of nuclear material, other radioactive material and their associated nuclear facilities, in use, storage and transport, through support and assistance to Member States for the establishment of effective national nuclear security regimes.

State of Nuclear Security around the World in 2008

Malicious acts involving nuclear or other radioactive material are a continuing worldwide threat.

Existing data indicate circumstances in which nuclear and other radioactive material is vulnerable to theft, is uncontrolled or is in unauthorized circulation. Related facilities and transports are at risk from acts of sabotage. In the course of 2008, a number of Member States took concrete steps — with Agency assistance — to address identified weaknesses. Through human resource and other development programmes, Agency efforts were focused on ensuring the sustainability of nuclear security improvements.

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Nuclear Security Assessments

The Agency continued to consolidate the nuclear security needs of States into Integrated Nuclear

Security Support Plans (INSSPs), which serve as a framework for implementing nuclear security activities and improvements. In 2008, an additional ten States approved their INSSPs, while a further 28 INSSPs are in various stages of development and discussion.

To help States assess the status of their technical and administrative arrangements, the Agency conducted nuclear security advisory and evaluation missions as well as fact finding and technical visits. There were 21 missions during the year which produced recommendations for nuclear security improvements in the requesting State focusing on:

physical protection of nuclear and other radioactive material and associated facilities and transports in States; nuclear security legislative and regulatory frameworks; detection and response

to the illicit trafficking of nuclear and other radioactive material; and planning and preparedness for nuclear security at major public events and for responding to malicious acts.

Guidance on Nuclear Security for Member States

Three new guides were issued in 2008 in the IAEA Nuclear Security Series (Fig. 1). Upcoming publications deal with the security of radioactive sources, cyber security and the protection of information sensitive for nuclear security.

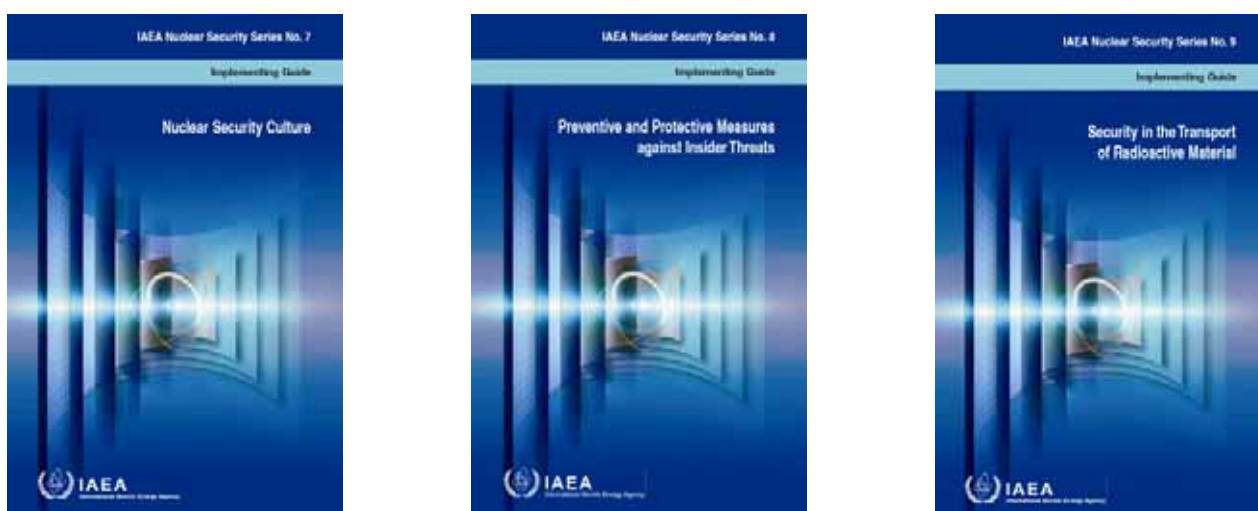


FIG. 1. Three publications issued by the Agency in 2008 covering nuclear security culture, insider threats and the transport of radioactive material.

Risk Reduction

The Agency assisted States in upgrading, or preparing to upgrade, physical protection at nuclear facilities in 12 States. Upgrades were also prepared for or implemented to the physical protection of radioactive material in nine States. More than 1500 disused radioactive sources were moved to secure storage. The Agency also continued its involvement in projects to repatriate disused HEU research reactor fuel. Supported by the US Global Threat Reduction Initiative, the Agency assisted in the shipment to the Russian Federation of 6.3 kg of spent HEU fuel from Bulgaria, 154.4 kg of spent HEU fuel from Hungary and 14.4 kg of spent HEU fuel from Latvia. In August 2008, the removal and repatriation of 7 kg of US origin spent HEU fuel from a research reactor in Portugal was prepared and managed under an Agency contract. This was the first time the Agency played a hands-on role in repatriating such material to the USA.

Nuclear Security Equipment Laboratory

During 2008, the Agency provided 24 States with 592 items of equipment to improve detection and response capabilities. Through its Nuclear Security Equipment Laboratory (NSEL), the Agency helped to ensure that border detection instruments met relevant technical and functional specifications by conducting acceptance tests on 689 portable and two fixed installed radiation detection instruments, and by evaluating 31 new detection systems. In 2007, the Agency was concerned about a 27% rejection rate of equipment tested by the NSEL. A comprehensive strategy to improve the quality of procured equipment was developed and, as a result, the rate of rejection was reduced to 5% in 2008. Following several improvements to hardware and software, five remote monitoring units passed NSEL acceptance testing (Fig. 2). Two units were deployed at research reactors to demonstrate the utility of the system in pilot installations.

The Agency played a direct role in the deployment of radiation detection equipment at entrances to the Vienna based international organizations. It also provided inputs for the development of design documentation and specifications, assisted



FIG. 2. Installation of remote monitoring equipment to improve the physical protection of a nuclear facility.

in the selection and procurement of the hand-held equipment and contributed to the development of operating procedures.

Nuclear Security at Major Public Events

The Agency continued to help States meet the nuclear security challenges associated with major public events. Assistance included security information, detection equipment and training, in addition to facilitating peer based sharing of knowledge and expertise. In cooperation with the Chinese authorities, the Agency conducted a project to ensure the nuclear security of the Summer Olympic Games in Beijing in August 2008 (Fig. 3). It also assisted the Government of Peru in establishing nuclear security arrangements for the Latin American and Caribbean–European Union Summit; and the Asia–Pacific Economic Cooperation CEO Summit. The Agency also facilitated assistance to Peru from the Brazilian Government, including the provision of experts for training activities and the loan of detection equipment that the Agency provided to Brazil for the Pan-American Games security project. And the Agency participated in initial discussions on providing assistance for future major public events to take place in China (the 2010 Shanghai EXPO), South Africa (the 2010 World Cup), the United

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FIG. 3. Checkpoint at the entrance of the 2008 Summer Olympic Games, Beijing.

Kingdom (the 2012 Olympic Games) and Poland–Ukraine (the 2012 Eurocup).

Human Resources Development

To strengthen the capacity of States in the area of prevention, the Agency organized 14 national and 16 regional training courses focusing on the physical protection of nuclear material in use, storage and transport and associated facilities, including State systems of accounting for and control of nuclear material. More than 750 participants from more than 90 States received prevention training. The Agency also provided training to enhance State capabilities for detecting, interdicting and responding to illegal acts involving nuclear and other radioactive material and associated facilities. During 2008, training courses of this kind, including 18 national, 12 regional and three international courses, were convened for more than 870 individuals from more than 80 States. The Agency continued to increase its efforts to improve nuclear security information and coordination through human resources development. To this end, three regional workshops on illicit trafficking information and two regional workshops on information and computer security were conducted during the year, involving nearly 150 participants from 42 States.

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In 2008, the Agency held meetings with Brazilian and Malaysian authorities on establishing national Nuclear Security Support Centres (NSSCs). It also supported Pakistan in providing nuclear security training courses through Pakistan’s NSSC.

The Agency also continued to give priority to the development of nuclear security education mechanisms. For example, it supported educational programmes at the Sevastopol National University of Nuclear Energy and Industry, in Ukraine, and at the Interdepartmental Special Training Centre in Obninsk, the Russian Federation. In addition, it enhanced cooperation with the Naif Arab University for Security Sciences, established by the League of Arab States and located in Saudi Arabia. These efforts are aimed at promoting institutional exchanges, exchanging information and organizing symposia, meetings and training courses on nuclear security issues.

The Illicit Trafficking Database

The Agency’s Illicit Trafficking Database (ITDB) contains data on illicit trafficking and other unauthorized activities from 1993 onward. The membership of the Agency’s ITDB programme continued to expand, now numbering 103 Member States and one non-member State. By 31 December 2008, States had reported, or otherwise confirmed, 1562 incidents to the database; 222 incidents were reported by States in 2008, of which 119 had occurred during the year (the others had occurred earlier). Of those which had occurred during the year, 15 involved illegal or unauthorized possession and related criminal activities, 16 involved thefts or losses of material, and 86 incidents involved the recovery or discovery of uncontrolled or orphan material, unauthorized disposals and other unauthorized activities. In two cases, there was insufficient information to categorize the incident. The continued reporting by States of incidents — whether criminal, unauthorized or inadvertent in nature — points to the need for further improvement of measures to control and secure nuclear and other radioactive material, wherever used or located, and of capabilities to detect illicit trafficking and other unauthorized acts involving such material.

Cooperation with International Organizations

The Agency continued to work with other international and regional organizations, including the European Commission, Europol, ICPO-INTERPOL, International Maritime Organization, Organization for Security and Co-operation in Europe, United Nations Interregional Crime and Justice Research Institute, United Nations Office on Drugs and Crime, Universal Postal Union, and World Customs Organization, in such areas as information sharing and training.

Support to the Nuclear Security Fund

The implementation of the Agency's nuclear security programme continued to depend largely

on the donation of extrabudgetary funds by Member States and others to the Nuclear Security Fund (NSF). In 2008, financial contributions with a cumulative value in excess of €7.6 million were received from 20 Member States and the European Union. In addition, a number of States made contributions in kind through the donation of equipment and services. The continued emphasis on programme delivery resulted in disbursements of over €18.2 million during the year, a significant increase over 2007.

The NSF continued to rely on the contributions of relatively few donors. Coordination with these donors and other multilateral initiatives continued to ensure optimal use of resources.