Nuclear Security

*Protecting Against Acts of Nuclear Terrorism*

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Nuclear Security: Definition

The prevention and detection of, and response to, theft, sabotage, unauthorized access, illegal transfer or other malicious acts involving nuclear material, other radioactive substances or their associated facilities.

Nuclear security vulnerabilities remain

Global Nuclear Security Regime

- Nuclear Safeguard – Non-proliferation
- Nuclear Security – Protect Against Terrorism
- Nuclear Safety – Technical Accident Prevention

Holistic Approach
IAEA Illicit Trafficking Database

- Established in 1995
- Unique network of points of contact connecting 100 States and several international organizations

IAEA Illicit Trafficking Database (ITDB)

1340 incidents reported during 1993-2007

Incidents confirmed to the ITDB during 1993-2007, by year when incidents occurred

Note: About of 50% of 2006 incidents were confirmed NRC reports. The share of such reports in 2005 or 2007 data is much smaller.

International response to nuclear terrorism

Annexed to the Convention on the Physical Protection of Nuclear Material

IAEA International Law Series, No. 9
**Significant strengthening of the international legal instruments for nuclear security**

- Convention on the Physical Protection of Nuclear Materials
  - 90% IAEA Member States are now party
- CPPNM Amendment, progress, but slow.
- Convention on the Suppression of Acts of Nuclear Terrorism
- UN Security Council Resolutions 1540 and 1373
  - Obligations are binding for all States.
- Code of Conduct on the Safety and Security of Radioactive Sources
- Safeguards Agreements, Additional Protocols; the Agency’s safeguards system
- Nuclear Safety Conventions

**Comprehensive Nuclear Security Approach**

- Needs assessment, analysis and information
- Prevention (first line of defense)
- Detection & Response (second line of defense)
- Radiological Event

- Security Infrastructure
  - Accountancy, SSAC, registry of sources
- Physical protection
- Detection and Monitoring, interdiction and seizure
- Threat assessment and response
- Law Enforcement, intelligence
- Mitigation and Recovery
- Radiological emergency response

- Nuclear Security Support
  - Knowledge Base, Legal Framework

**Growing nuclear energy demand – requires solid security arrangements**

- *Vita nova* of nuclear energy; hope and challenge.
- A significant growth in nuclear energy, means:
  - increased production of source material,
  - more fuel cycle facilities or throughput
  - More transports
  - More nuclear power plants and waste disposal facilities.
- Nuclear security must be systematically implemented, part of the commonly accepted norm.
- The IAEA plays a crucial role for that purpose, the only international organization with a mandate in nuclear security.
Effective nuclear security in any State includes:

- Effective legal and regulatory structures
- Up-to-date physical protection for sites/locations with nuclear and radioactive substances
- Accounting, control and registry of all materials
- Effective border control systems
- Security at major public events
- Threat reduction for vulnerable materials or facilities/locations, including repatriation to suppliers
- Human resource development
- Research and development
- Nuclear security culture and sustainability

IAEA Contributions

Nuclear Security Series of Documents

IAEA Nuclear Security Series will:
Facilitate international implementation of legal instruments and domestic/national policy

Hierarchical structure:
- Fundamentals; essential elements
- recommendations
- Implementing guides

Synergies with nuclear safety and safeguards

IAEA contributions

Nuclear Security Information Platform

- Enhanced ITDB & other databases
- Continuous improvement of quality of data in cooperation of MS
- Enhanced analysis to identify nuclear security needs and priorities
- Nuclear Security Information Products that are helpful for States and for the general public.

N.B. Maintaining confidentiality of sensitive information
**Threat reduction**

Physical protection upgrades, repatriation to supplier

- The Agency supported improvements of physical protection.
- The Agency assisted recovering, conditioning and repatriating spent research reactor fuel or dangerous radioactive sources.
- Activities in a large number of States, all regions

**Effective Border Control**

- Enhanced capabilities to detect, interdict, and respond to illegal acts involving nuclear and other radioactive material and associated facilities, in a large number of States
- Equipment & testing services
- Expert advice
- Research & Development
Nuclear Security at Major Public Events

The Agency continued to assist States in developing and implementing measures to prevent incidents of nuclear terrorism at major public events, with support and advice and technical support in the areas of detection, interdiction and response.

- 2004: Summer Olympic Games, Greece
- 2006: Football World Cup, Germany
- 2007: Pan-American Games, Brazil
- 2008 IAC-EU Summit and APEC CEO Summit, Peru
- 2008: Summer Olympic Games, China

Human Resource Development

- Coordinating/convening a large number of training and education events; reaching most Member States
- Efforts in support of training programmes in Member States, e.g. National N.S. Support Centres
- Graduate educational programme at universities

Integrated Nuclear Security Support Plans
International Cooperation and Coordination

- Member States and not yet Member States
- Interpol, Europol, WCO, OSCE, UNICRI, ITU/JRC, UNODC, etc.
- Conferences, meetings and workshops
- Expert support: development of Nuclear Series documents, peer reviews and missions
- Outreach and information exchange: e.g. information clearing house and international coordination

Q&A