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Joint ICTP-IAEA School of Nuclear Energy Management

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The IAEA Nuclear Security Programme

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The IAEA Nuclear Security Programme

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IAEA
International Atomic Energy Agency

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Nuclear Security Plan 2010—2013

Objective:

*Contribute to global efforts to achieve worldwide, effective security wherever nuclear or other radioactive material is in use, storage and/or transport, and of associated facilities, **by supporting States, upon request, in their efforts to establish and maintain effective nuclear security through assistance in capacity building, guidance, human resource development, sustainability and risk reduction.***



Four elements of the Plan

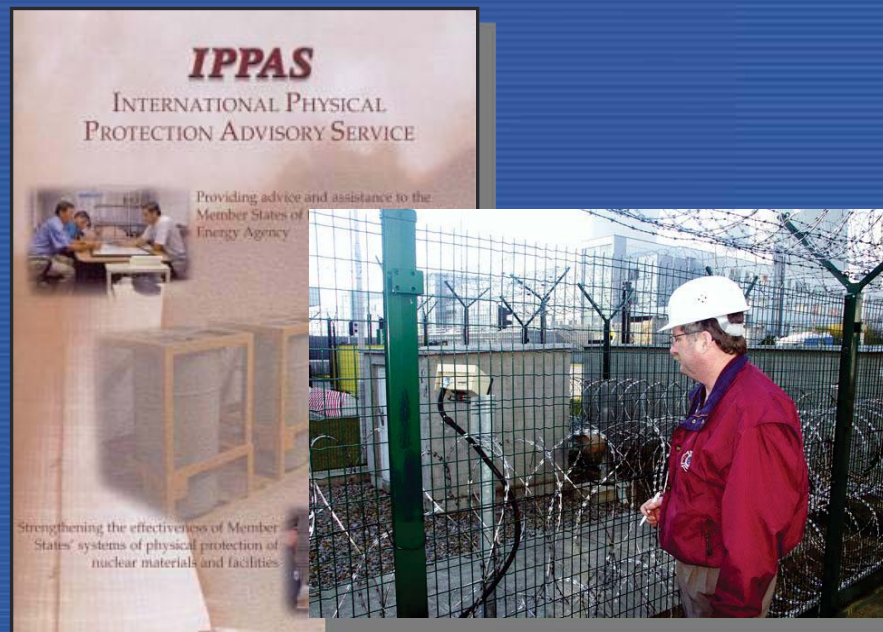
- **Needs assessment, information collation and analysis**
- **Contributing to the enhancement of a global nuclear security framework**
- **Providing nuclear security services**
- **Risk reduction and security improvement**

*Resources: A minimum requested for a serious programme:
€23.1m/year*

*Mechanisms established to take on a substantive, higher
value programme*

Nuclear Security Support Activities

- Advisory Services to assess needs
- Human Resource Development
- Guidelines Development
- Upgrades of Technical Capabilities
- Research & Development
- Information Exchange & Analysis
- Cooperation & Coordination



Advisory Services to Assess Needs

- **Nuclear Security Advisory Services**
 - INSServ - International Nuclear Security Advisory Service
 - IPPAS - International Physical Protection Advisory Service
 - ITE - International Teams of Experts
- **Other Services**
 - IRRS – Integrated Regulatory Review Service
 - ISSAS - IAEA State System of Accounting for and Control of Nuclear Material Advisory Service



Integrated Nuclear Security Support Plan (INSSP)

Integrated Nuclear Security Support Plan		COUNTRY		IAEA International Atomic Energy Agency	
Proposed Actions		Sequence	Responsible Entity	Proposed Initiation	Comments
Legal and Regulatory Framework					
1. Review the relevant Country laws and regulations to determine where provisions specifically related to nuclear security issues (illicit trafficking, physical protection, sabotage) could usefully be added, and bring into force the necessary new provisions.		1	Country/IAEA	Month/Year	
2. Expedite drafting and promulgation of additional regulatory codes in areas relevant to nuclear security.		1	Country/IAEA	Month/Year	
3. Expedite the ratification of the Additional Protocol to the IAEA Safeguards Agreement.		1	Country	Month/Year	
4. Initiate process of adhering to the Convention on Physical Protection of Nuclear Material (CPPNM).		1	Country	Month/Year	
Prevention					
5. Locate and secure uncontrolled radioactive sources by using IAEA guidance and assistance. Establish a centralized storage facility for radioactive material not in use, orphan sources and seized materials.		1	Country/IAEA	Month/Year	
6. Complete the inventory and security categorization of all radioactive sources in Country.		1	Country	Month/Year	
7. Carry out, with the assistance of the IAEA, a review of the level of physical security arrangements of the relevant facilities, in particular the search reactor facility and the irradiation facility, taking into account the regulatory requirements and IAEA recommendations. Implement the necessary upgrades.		2	Country/IAEA/Donors	Month/Year	
Detection					
8. Evaluate the types and locations of border monitoring equipment, and prepare in close cooperation with the IAEA, for the provision of such equipment. Consider provision of basic radiation detection equipment for front-line officers, in the initial phase for the following border crossing points: XX international airport, YY seaport, and land border crossing point between Country and Country A. Prepare for the provision of radiation detection equipment by taking into account the following actions: <ul style="list-style-type: none"> • Develop procedures for instructing front-line officers on measures related to detection • Make available for front-line officers reliable technical support in a timely manner • Provide arrangements to maintain and periodically calibrate the radiation detection equipment 		2	Country/IAEA/Donors	Month/Year	
9. Based on experience gained from monitoring for radiation at border crossing points, develop and implement a plan for radiation monitoring at border crossing points with radiation monitoring capability, as appropriate.			Country/IAEA/Donors	Month/Year	

CONFIDENTIAL

- Based on findings from a range of nuclear security missions and other information
- Developed in consultation with the State and tailored to the State's specific needs

Human Resource Development

Education

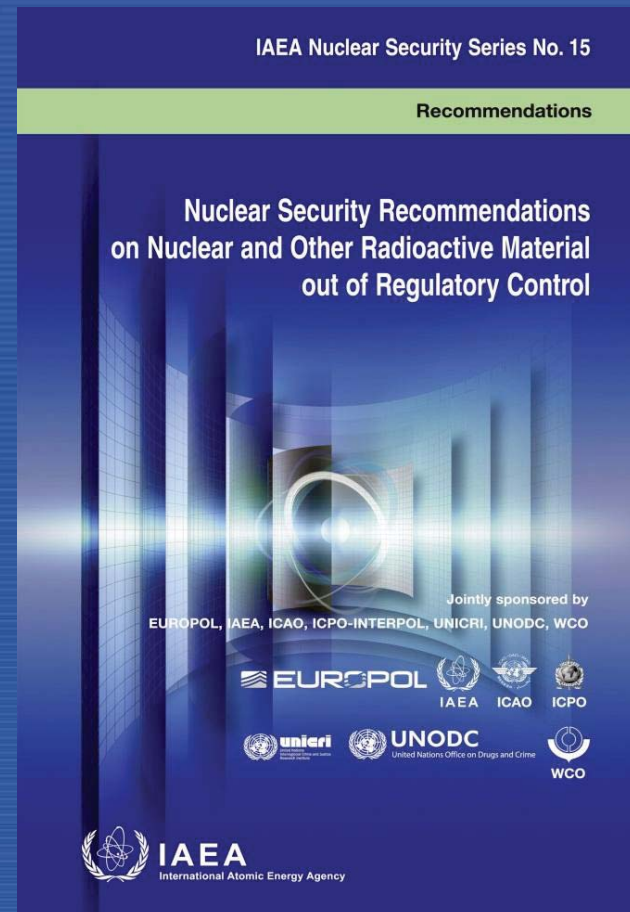
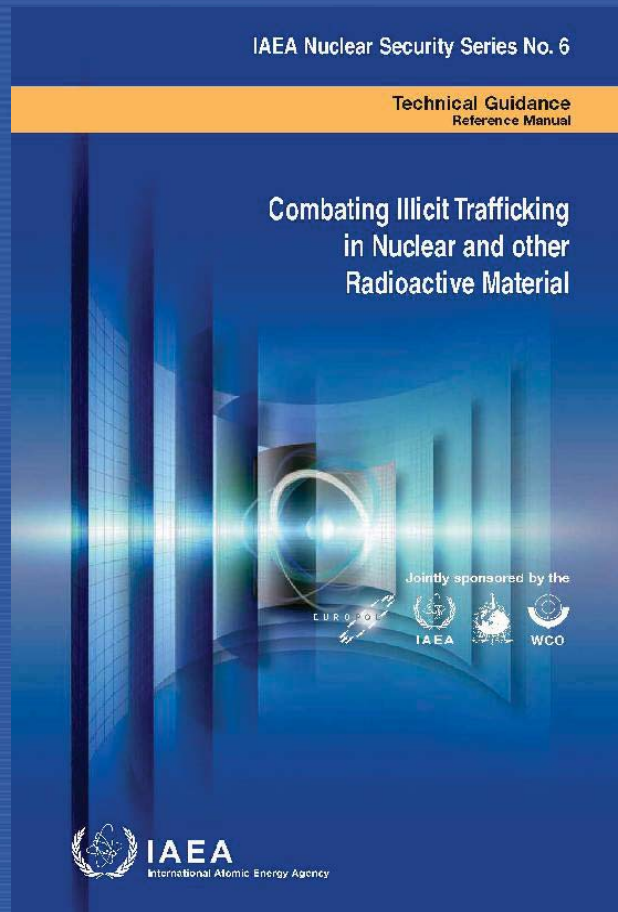
- Educational Programme in Nuclear Security



Training

- General Training
- Specialized Training
- Training of Trainer
- On-the-Job Training
- Fellow-ships
- Technical Visit

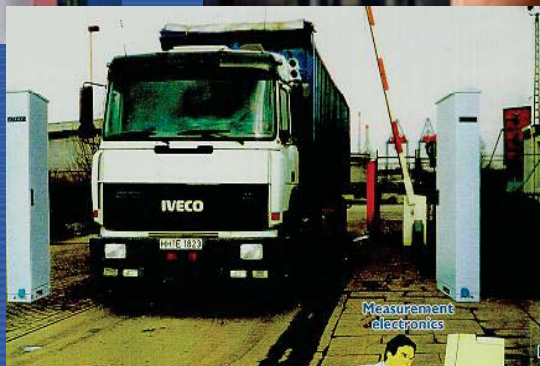
Guidelines Development



<http://www-pub.iaea.org/MTCD/publications/ResultsPage.asp>

Upgrades of Technical Capabilities

- Physical protection & accountancy & control upgrades
- Detection and response equipment at border crossing and venues



Research & Development

Coordinated Research Projects

1. 'Development of Methodologies for Risk Assessment and State Management of Nuclear Security Regime'
2. 'Development and Implementation of Instrument and Methods for detection of criminal or intentional events involving nuclear and other radioactive material'
3. 'Application of nuclear forensics in illicit trafficking of nuclear and other radioactive materials'



Information Exchange & Analysis

IAEA Illicit Trafficking
in Nuclear Materials and Other Radioactive Sources
Incident Notification Form

Status: (check one)
☒ Initial Notification
☐ Update of Previous Incident

IAEA ID#: **2002-03-002**
(Enter the IAEA ID# if it is an update. Otherwise, leave blank)

Send to: IAEA Illicit Trafficking Database Office
 FAX: 43-1-2600-29250
 E-mail: trafficking@iaea.org

Basic Information for Unrestricted Distribution
(Information reported in this section may be disseminated by the IAEA to parties outside the Agency)

Date of Incident: **15-Mar-02** (day-month-year format) Country: **Lithuania** (where incident occurred)

Nature of Incident: **DISCOVERY** (Theft or Unauthorized Possession/Use/Transfer, etc.) Location: **20 km from Utena town** (location within the country, i.e., city, airport, highway, rail station, etc.)

Materials Involved in Incident:

Nuclear Material	Radioactive Sources
<input type="checkbox"/> Natural Uranium <input type="checkbox"/> Depleted Uranium <input type="checkbox"/> Thorium <input type="checkbox"/> Other (specify)	<input checked="" type="checkbox"/> LEU (<20% ²³⁵ U) <input type="checkbox"/> HEU (>20% ²³⁵ U) <input type="checkbox"/> U-233 <input type="checkbox"/> Plutonium

Isotopic Content: _____ (e.g., ²³⁵U, ²³³U, ²³⁹Pu content)

Quantity: _____ g

Chemical Description: _____ (i.e., U₃O₈ Oxide, Metal, U₃K₂, nitric acid, etc.)

Physical Description: _____ (i.e., pellets, powder, fuel element, liquid, dimensions, etc.)

Comments (any additional information, protective actions taken or requests for IAEA Lab Analysis or other support):
The representatives of prosecutor office using the operative information discovered the steel tube bar, which was buried in the depth of 50 cm. The radiation dose rate at the surface of the bar was 4 microSv/h. The approximate dimensions of the bar: length 60 cm, diameter 10 cm, weight 20 kg. The ends of the bar are sealed with lead. The fresh fuel pellets are supposed to be inside.



Incident / Report

Incident | Incident Analysis | Attribute | **INCIDENT - State has confirmed**

Rating: _____

Analysis - Public: On 2000-04-19, Georgian authorities in Batumi seized 920 grams of highly enriched (about 30% U-235) UO₂ fuel pellets. The pellet mass and geometry, together with the reported enrichment level, suggest that the pellets were from fast reactor fuel. Four Georgian citizens, residents of Batumi, were arrested. According to press reporting, they were trying to smuggle the material into Turkey.

Analysis - Confidential: _____

REPORT: State / 2000-05-04 2000-05-04 State 2 of 6

Report | Involved Materials | Part II of State Report | Report Docs/Images

Report Date: 2000-05-04 Report Type: State Counted ☒

Material Origin State: _____ Material Origin Location: _____

Report Source: Department for Standardization, Metrology and Certification of Georgia

Chemical Description: Unknown

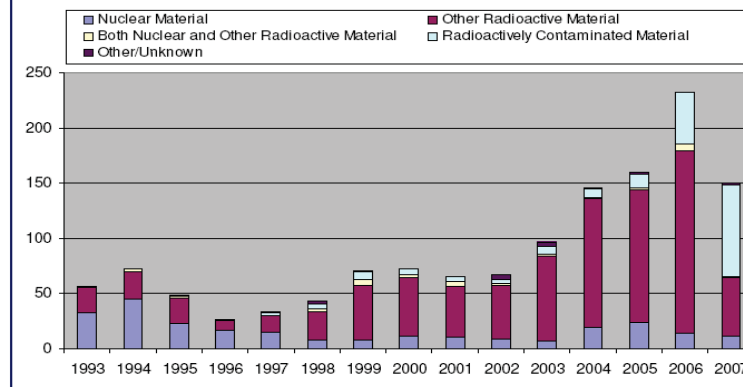
Physical Description: 5 Fragments and 380 unbroken pills with central hole 1.8 mm. The weight of each pill is approx. 2.4 g. h=99 ± 0.3

Agency Comments: On 2000-05-04, the IAEA received a notification from Georgia about a seizure of HEU (30% U-235) in batumi on 19 April 2000. Detailed laboratory analysis of the material was attached to the report.

State Part 1 Comments: _____



During 1993-2007, States reported to the ITDB the total of 1340 incidents



Co-operation with International Organizations



UNITED NATIONS
Office on Drugs and Crime



unifri

advancing security, serving justice,
building peace

UNITED NATIONS INTERREGIONAL CRIME
AND JUSTICE RESEARCH INSTITUTE

WORLD CUSTOMS ORGANIZATION
ORGANISATION mondiale des douanes

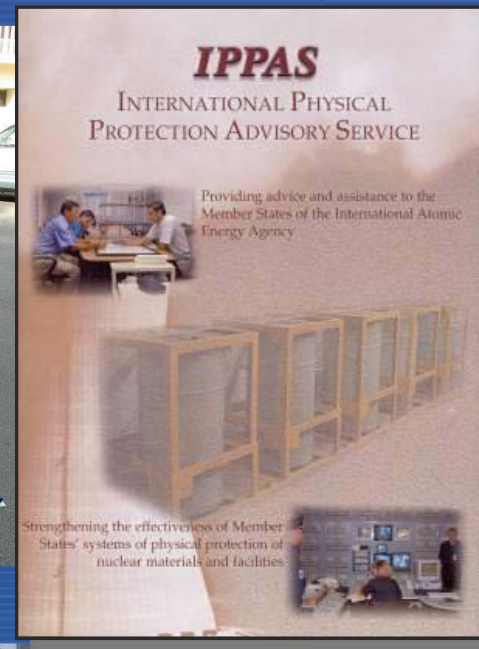


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Nuclear Security Assistance

- Funded through IAEA Nuclear Security Fund
- Requests for assistance can be addressed directly to the Office of Nuclear Security



Summary

**The threat of *Nuclear Terrorism*
is real & immediate.**

The IAEA has developed a comprehensive Nuclear Security Plan, including a extensive assistance program, to support, upon request, States in their efforts to establish and maintain sustainable nuclear security regimes.

For further information please visit our website:

<http://www-ns.iaea.org/security/>

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Nuclear Security


News

Strengthening Nuclear Security Education and Training




As the use of nuclear energy for power generation and radiation techniques in medical, industrial and other practices continues, protecting nuclear and other radioactive material remains a difficult security challenge for many countries worldwide. An effective way to address this challenge is through proper education and training, and the IAEA's Department of Nuclear Safety and Security's side event at this year's 56th General Conference will highlight the Agency's activities in this field..... [Full story »](#)

IAEA Member States Seeking to Improve Illicit Trafficking Database



More than 90 IAEA Member States convened in Vienna to discuss ways to improve the sharing of information about incidents involving illicit trafficking and other unauthorized activities and events involving nuclear material and other radioactive materials. The illicit trafficking of nuclear and other radioactive materials remains of serious concern to the international community. To help combat this problem, the IAEA maintains..... [Full story »](#)

Nuclear Forensics: Key to Ensuring Nuclear Security




Nuclear material presents a risk if it is unsecured. Materials used throughout the nuclear fuel cycle as well as radioactive "sources" that are used routinely in medicine, industry and research may be lost, abandoned, or removed from inactivated facilities

Resources

- Nuclear Security Plan
- IAEA Nuclear Security Series
- Events
- Nuclear Security Information Portal (NUSEC)
- Convention on Physical Protection of Nuclear Material
- Security Council resolutions 1373 and 1540

Upcoming Conferences

Posted on September 11 2012



Vienna, Austria
1-5 July 2013

International Conference on Nuclear Security: Enhancing Global Efforts

will take place in Vienna, Austria from 1-5 July 2013... [Read more »](#)

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