Office of Nuclear Security
Department of Nuclear Safety and Security

A. Braunegger-Guelich

Training for TC National Liaison Officers/Assistants
and New Staff Members of
Permanent Missions in Vienna
Vienna, 29 May 2009

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Contents

- Nuclear Security
- Nuclear Security Plans
- Nuclear Security Support Programme
  - Human Resource Development Program
  - Regional Nuclear Security TC Project: *Developing Human Resources in Nuclear Security*
- Conclusion

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Nuclear Security

Prevention ***Detection*** ***Response***

Why is Nuclear Security today an international concern?

- ❑ Since 9/11 the threat has changed.
- ❑ Today Nuclear Terrorism is a real threat.

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Four Threats

- Theft of nuclear weapon
- Theft of material to make improvised nuclear explosive device
- Theft of other radioactive material for radiological dispersal device (RDD)
- Sabotage of facility or transport

Lock from stolen source

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Nuclear Security Plan 2002–2005

- **September 2001:** IAEA General Conference requests review of IAEA's activities
- **March 2002:** Board of Governors approves 'Plan of Activities': eight activity areas
  - Establishment of **'Nuclear Security Fund (NSF)'**

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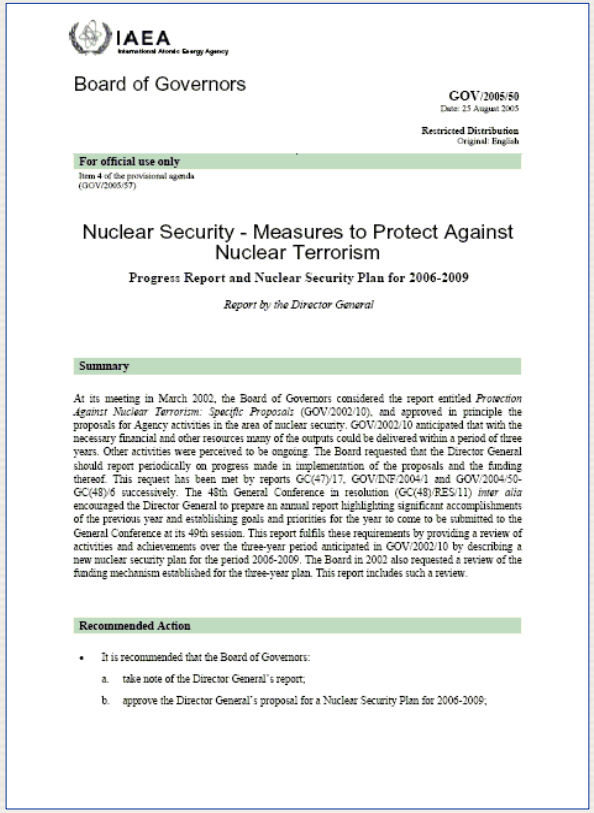
Nuclear Security Plan 2006–2009

- **September 2005:** Board of Governors approves new Nuclear Security Plan for next four years
- **Estimated annual budget:** $15m
- **Three activity areas**



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Board of Governors

GOV/2005/50
Date: 25 August 2005

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Item 4 of the provisional agenda
(GOV/2005/57)

Nuclear Security - Measures to Protect Against Nuclear Terrorism

Progress Report and Nuclear Security Plan for 2006-2009

Report by the Director General

Summary

At its meeting in March 2002, the Board of Governors considered the report entitled *Protection Against Nuclear Terrorism: Specific Proposals* (GOV/2002/10), and approved in principle the proposals for Agency activities in the area of nuclear security. GOV/2002/10 anticipated that with the necessary financial and other resources many of the outputs could be delivered within a period of three years. Other activities were perceived to be ongoing. The Board requested that the Director General should report periodically on progress made in implementation of the proposals and the funding thereof. This request has been met by reports GC(47)/17, GOV/INF/2004/1 and GOV/2004/50-GC(48)/6 successively. The 48th General Conference in resolution (GC(48)/RES/11) *inter alia* encouraged the Director General to prepare an annual report highlighting significant accomplishments of the previous year and establishing goals and priorities for the year to come to be submitted to the General Conference at its 49th session. This report fulfils these requirements by providing a review of activities and achievements over the three-year period anticipated in GOV/2002/10 by describing a new nuclear security plan for the period 2006-2009. The Board in 2002 also requested a review of the funding mechanism established for the three-year plan. This report includes such a review.

Recommended Action

- It is recommended that the Board of Governors:
  a. take note of the Director General's report;
  b. approve the Director General's proposal for a Nuclear Security Plan for 2006-2009;

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Three Activity Areas

- **Information Management and Coordination**
  - Collection of data on illicit trafficking and nuclear security incidents
  - Coordination with States and other international organizations
- **Prevention**
  - Control on material: regulatory systems, SSACs*
  - Protection of material, facilities, transport from theft and sabotage
  - Nuclear security culture
- **Detection & Response**
  - Detection of and response to incidents involving radioactive material
  - Radiation detection techniques and concepts
  - Security at major public events

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*SSAC=State system of accountancy and control

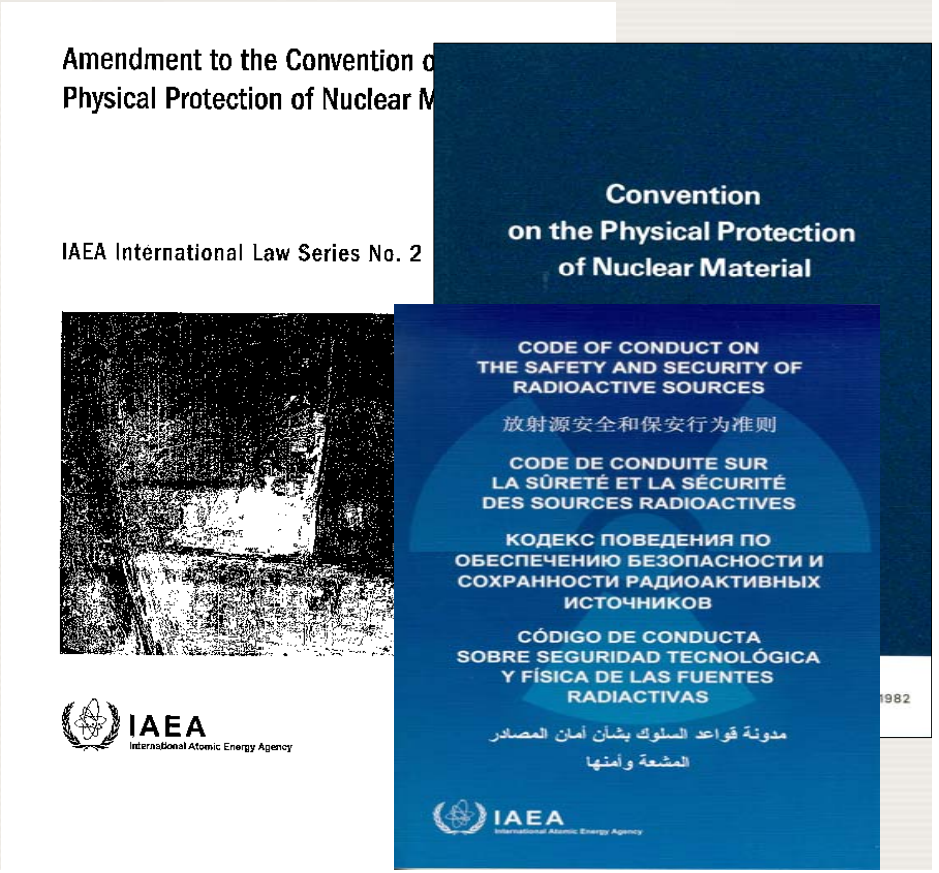
International Instruments

Legally binding:

- Convention on the Physical Protection of Nuclear Material & Amendment
- Safeguards agreements and additional protocols
- Convention on the Suppression of Acts of Nuclear Terrorism
- Security Council resolution 1540
- Security Council resolution 1373

Non-binding:

- Code of Conduct on the Safety and Security of Radioactive Sources



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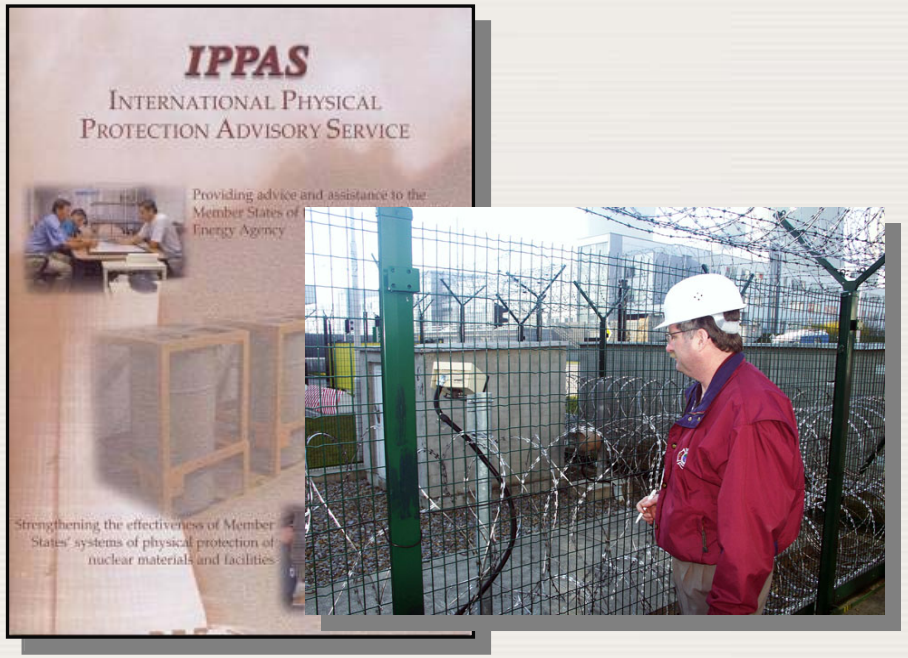
Nuclear Security Support Programme

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



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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

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Human Resource Development

Education

‘Educational Programme in Nuclear Security’

- Master of Science
- Certificate

Training

- General Training
- Specialized Training
- On-the-Job Training

Fellowships

Technical Visits

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http://www-ns.iaea.org/security/training.htm

Target Audience

Policy Makers
Regulators
Operators
Carriers

Law Enforcement
Police, Customs
Intelligence
Border Guards
Emergency Responders
Military/Defence

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Regional Nuclear Security TC Project

'Developing Human Resources in Nuclear Security'
RER/9/102

Objective:

Increase capacity for nuclear security infrastructures in States

Strategy:

Regional training courses, technical visits, on-the-job Training and the implementation of international legal instruments

Fund:

Nuclear Security Fund (NSF)

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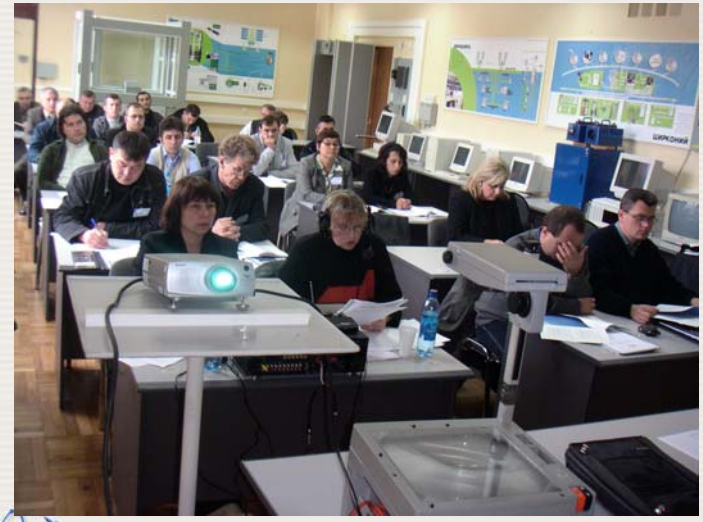
Developing Human Resources in Nuclear Security - RER/9/102

- Physical Protection of Nuclear Material and Facilities, Czech Republic, 16-27 March 2009



- Combating Illicit Trafficking in Nuclear and other Radioactive Materials, Finland, 8-11 June 2009

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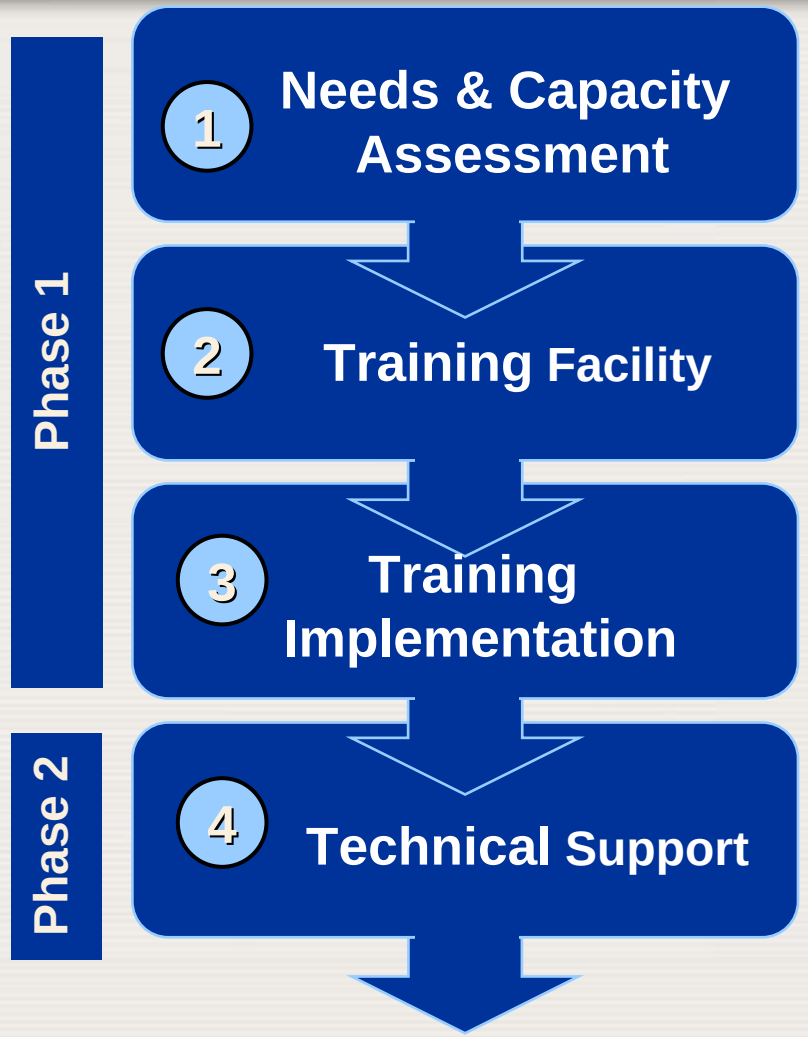
Nuclear Security Support Centre

Objectives:

- Implementation of national training program
- Establishment of nuclear security knowledge network
- Enhancement of coordination and collaboration
- Provision of services for maintenance of equipment



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Graded Approach to Capacity Building

Guideline Development – Nuclear Security Series

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

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Upgrading Technical Capabilities

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

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Research & Development
Nuclear Security Coordinated Research Project

Improvements in Detection Instrumentation

- Radiation portal monitors (RPMs)

- Personal radiation detectors (PRDs)
- Radionuclide identification devices (RIDs)

Nuclear Forensics Procedures & Techniques

- Categorization of nuclear and other radioactive material
- Preservation of evidence and for transportation of evidence

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Information Exchange and 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

Part I-Information for Unrestricted Distribution
Information contained 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 Unauthorised 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
☐ Natural Uranium
☐ Depleted Uranium
☐ Thorium
☐ Other (specify)
☒ LEU (<20% ^{235}U)
☐ HEU (>20% ^{235}U)
☐ U-233
☐ Plutonium

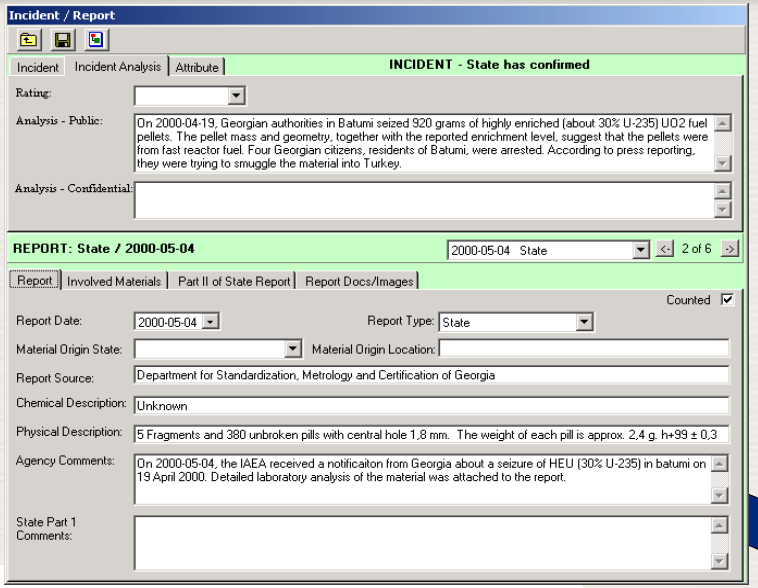
Isotopic Content: _____ (% ^{235}U, ^{233}U, ^{239}Pu content)
Quantity: _____ g

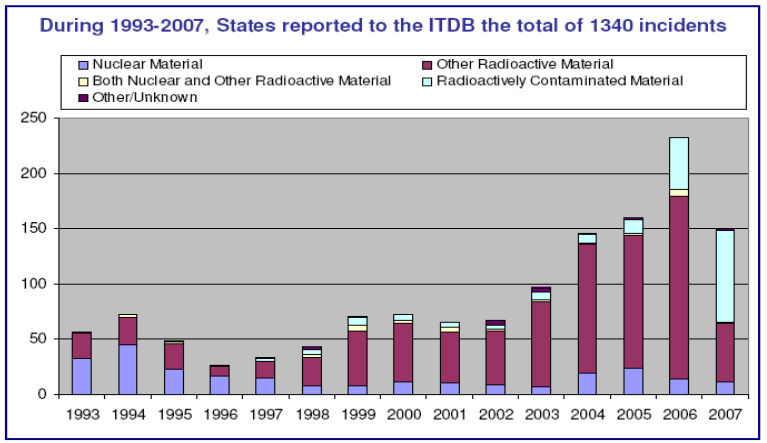
Radioactive Sources
Nuclide | Activity* (☒ Bq or ☐ Ci)

*note: 1 Bq=1 disintegration/s, 1 Ci=3.7x10^{10} Bq

Chemical Description: _____ (i.e., U_3O_8, Oxide, Metal, UF_6, K), tritiated water, 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 aproximate 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.





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Cooperation with International Organizations

Coordination
IAEA Sponsored Conferences

- **International Symposium on Nuclear Security**

  30 March–April 2009, IAEA HQs, Vienna

- Illicit Nuclear Trafficking: Collective Experience & the Way Forward (Edinburgh, 2007)

- Nuclear Regulatory Systems (Moscow, 2006)

- Safety and Security of Sources (Bordeaux, 2005)

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Conclusion

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

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