OSCE Workshop to Identify the Proper Role of the OSCE in Facilitation of UN Security Council Resolution 1540 27 – 28 January 2011 Vienna FSC.DEL/17/11 26 January 2011

ENGLISH only



#### **International Atomic Energy Agency**



#### **Nuclear Security Assistance**

January 2011 John G.Hilliard

## **Nuclear Terrorism Threats**

- 1. Nuclear explosive device
  - Theft of nuclear weapon
  - Theft of material to make a nuclear explosive device



- 2. Radiological dispersal device
  - Theft of radioactive material/source
- 3. Sabotage
  - of a facility or transport to cause dispersal of radioactivity





#### IAEA

- An independent intergovernmental organisation
- Governed by its statute and the decisions of its Member States
- Programs and activities are approved and funded through regular and extra-budgetary funds
- IAEA assistance may be useful for States in the implementation of their international obligations including those required by UNSCR 1540



Combating Nuclear Terrorism What can the IAEA do?

- Security responsibility of State
- Transnational and international character of terrorism
- Need for international cooperation and coordination
- IAEA role advisory: support and assistance to Member States in efforts to combat nuclear terrorism

#### IAEA General Conference Approvals to Combat Nuclear Terrorism

- Sept. 2002: Four year Plan of Activities
- Sept. 2005: Nuclear Security Plan (2006–2009)
- Sept 2007: Secretariat can, on request, assist States to meet their 1540 obligations, within IAEA Statute
- Sept 2009: a new Nuclear Security Plan (2010-2013)



## **Nuclear Security Activity Areas**

#### **Prevention, Detection & Response**

- A = Nuclear Security Fact Finding Missions
- B = Research
- C = Guidelines Development
- D = Training
- E = Cooperation & Coordination
- F = Infrastructure Support
- G = Information Exchange & Analysis
- H = Upgrades of Equipment

## A: Nuclear Security Missions

#### **INSServ – International Nuclear Security Service**

- Advisory Mission Overview of nuclear security activities in a State
- IPPAS International Physical Protection Advisory Service
- Peer Review of State Physical Protection
- **ISSAS IAEA SSAC Advisory Service**
- Advisory Mission Overview of effectiveness of State's existing State System of Accounting and Control of nuclear material

#### Missions result in Integrated Nuclear Security Support Plan (INSSP);

#### **Integrated Nuclear Security Support Plan**

- An INSSP provides a platform for nuclear security work to be implemented over time.
- Nuclear Security needs irrespective of resources.
- Enables States to implement nuclear security improvements without external assistance.
- Enables all parties (Agency, State, Donors) to plan and coordinate activities from both a technical and financial viewpoint.
- Optimises use of resources, avoids duplications and ensures sustainability.
- Remains Confidential



## **IAEA Programmes and Activities**

- 1. Legislative Assistance:
  - Safeguards Agreements under NPT
  - Additional Protocols
  - Convention on Physical Protection of Nuclear Material (CPPNM) + amendment
- **2. Assessment Missions:** 
  - International Experts Report on Infrastructure
     and make Recommendations
  - Assist with Implementing Recommendations

#### **Nuclear Security Guidance**

#### **FUNDAMENTALS & RECOMMENDATIONS**

Legislative Drafters Policy Making Personnel Senior Enforcement



#### **SECURITY GUIDANCE**

Regulators; Operators; Law Enforcement; Police; Customs; Intelligence; Border Guards; Emergency Responders; Military/Defence; Carriers.



#### **Nuclear Security Series Recommendations, Guides and Handbooks**



### C: Nuclear Security Guidance Recommendations, Guides & Handbooks



## **IAEA Programmes and Activities**

- 3. Support for State to:
  - Develop and Implement High Standards of Physical Protection of Nuclear Materials and Nuclear Facilities
  - Upgrade Border Controls in Order to Better Detect Illicit Trafficking of Nuclear Material
- 4. Training on:
  - Implementation of Legal Instruments to which States Subscribe
  - National Controls on Nuclear Material



#### **IAEA - Upgrade of Equipment**

- 1. **Prevention Upgrades:** 
  - Register for nuclear material and radioactive sources
  - Physical protection



#### 2. Detection Equipment Upgrade



# Personal radiation detector (PRD)

# Hand-held radionuclide identification device (RID)





# Neutron search device (NSD)

#### **Detection Equipment Upgrade**

#### **Fixed - Radiation Portal Monitor (RMP)**



#### **Vehicle monitors**



#### **Pedestrian monitors**



### 3. Response Equipment Upgrade

**Expert Support (at border or venue)** 

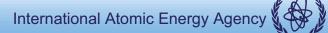
 Radioisotope identification device (RID)



#### **Mobile Expert Support Team**

- Neutron detectors
- HPGe
- Gamma/neutron





#### **IAEA Nuclear Security Training Courses**

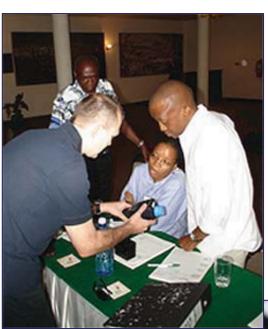
#### Examples:

- State System of Accountancy and Control
- Security Awareness
- Combating Illicit Trafficking
- Design Basis Threat
- Front Line Officer
- Response to Nuclear Security Incidents



Radiological Crime-Scene Management

#### **Use of radiation detection equipment**











#### **Radiological Crime Scene Management**

- Organization and Fundamental Stages –

#### Conduct detailed search & collect evidence Photograph items before collection

#### **Record evidence**

Document Chain of Custody. Decontamination/No Decontamination?

Final survey Is additional work needed?

#### **Release the crime scene**

**Release scene to authority having jurisdiction** 



#### **Simulation exercises**



#### **Risk Reduction – Nuclear Security at Major Pubic Events**



**FIFA WORLD CUP** 

2006

XV Pan American Games Rio 2007



- **Athens Olympics**
- World Cup, Germany
- PAN American Games, Brazil
- China Olympics
- APEC meeting, Peru

#### Areas Covered:

- Planning
- **Capacity Building**
- Training
- **Information Support**
- **Technical Assistance**
- Response







#### **Nuclear Security Coordinated Research Projects**

'Development and Implementation of Instruments and Methods for Detection of Unauthorized Acts Involving Nuclear and other Radioactive Material'





'Application of Nuclear Forensics in Illicit Trafficking of Nuclear and Other Radioactive Material'

**'Development of Methodologies** for Risk Assessment and State Management of Nuclear Security Regime'



# G: Information Services (112 States Participate)

## Illicit Trafficking Data Base

- Over 1200+ confirmed incidents
- Includes information reported by States and open sources
- Covers nuclear and other radioactive material

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	Individuals or Organisations involved in the Incident:	Initial Notification Update of Previous Incident	(Enter the IAEA ID# if it is an	update. Otherwise, keave blank)	
-	Description of Containers, Packaging and Labelling:		FAX: 43-1-26		
				cking@laea.org	
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## **ITDB Information Products**

- Individual incident reports
- CD-ROM version of the ITDB
- Quarterly Reports
- Annual Report
- Ad-hoc Reports
- Media responses
- WEB ITDB

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#### Analysis – European Focus

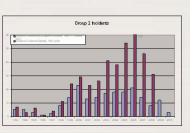


#### **Group 2: Thefts and losses**

#### European Data

- 199 incidents involved theft or loss of materials (mainly sealed sources part of industrial instruments)
- Over 90% of incidents involved radioactive sources (mainly Category 4 and 5)
- In 65% of cases, lost or stolen materials have not been recovered
- Mobile or portable industrial sources are most susceptible to theft or loss
- Sources/devices are especially vulnerable for theft/loss when located inside vehicles; during other transport; at bankrupt, or abandoned facilities

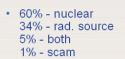
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#### Group 1 - Unauthorized possession and related criminal activities

#### European Data

252 incidents involving illegal possession, attempted sale, smuggling, etc.



 Majority of materials not previously reported as lost or stolen



#### Group 3: Other unauthorized activities & events

European Data 607 incidents involved orphan sources, unauthorized disposals and other material

Primarily involved

failures to control

materials in use and

contaminated materials These events highlight

recoveries

radioactively

disposal



Group 1 Incident

Group 3 Incidents radioactive sources and

2006-2009 - significant number of cases involving detection of goods contaminated with Čo-60





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## **Concluding Remarks**

The Agency has a number of programmes and activities that can benefit States in the implementation of their international Nuclear Security obligations, such as UNSCR 1540 The most practical approach is for States requiring assistance to work directly with the Agency and to report progress on the fulfillment

of their obligations to Committee 1540

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