

# **Control of Nuclear Material and Radioactive Sources**

**Jan Alexander Lodding**

**Policy Officer**

**Verification and Security Policy Co-ordination Section**

**Office of External Relations and Policy Co-ordination**

**International Atomic Energy Agency**

# What does the IAEA do?

- **Nuclear verification, safety/security and technology**
- **The Agency acts on the basis of consensus**
- **Its focus is defined by its mandate and its Member States and may change over time with the priorities of its Member States**

# What does the IAEA do?

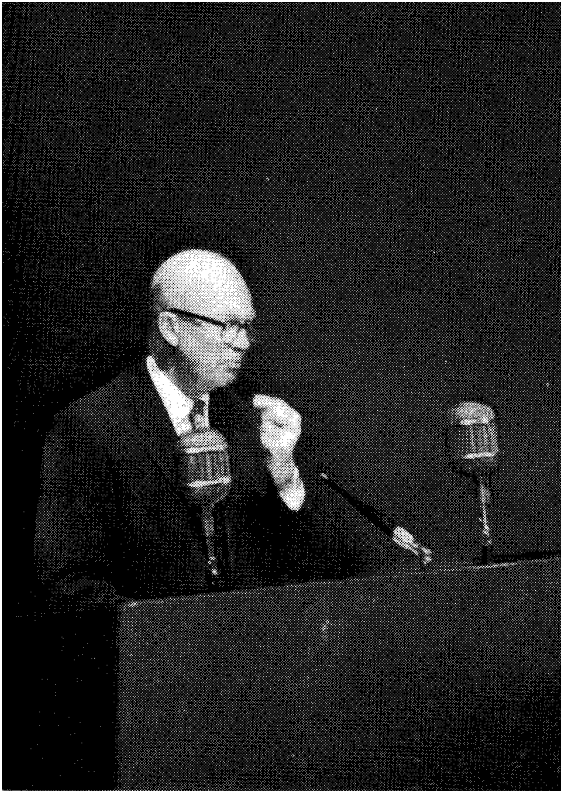
## Activities of the IAEA

- 1. Verifying States compliance with international non-proliferation undertakings through safeguards agreements**
- 2. Assisting in the setting of international conventions, standards and recommendations related to the Agency's mandate**
- 3. Technical assistance, research and information related to such instruments**

# **Atoms for Peace**

## **Eisenhower's speech at the UN**

### **8 December 1953**



- **“An international agency for atomic energy”**
- **Responsible for Nuclear Material (NM)**
- **Promote peaceful applications of atomic energy.**
- **Verify purely peaceful use of nuclear material**

# Background

**Key Challenge:**

**HOW TO DISSEMINATE THE BENEFITS  
OF NUCLEAR ENERGY WHILE  
ENSURING AGAINST ITS DESTRUCTIVE  
CAPABILITIES**

# Background

## Added priorities over time:

**1970s: NPT Safeguards**

**1980s: Nuclear and Radiation Safety**

**1990s: Strengthening Safeguards (also to help establish regulatory infrastructure in Newly Independent States)**

**2000s: Nuclear Security (including physical protection and control of sources);  
Achieving Integrated Safeguards**

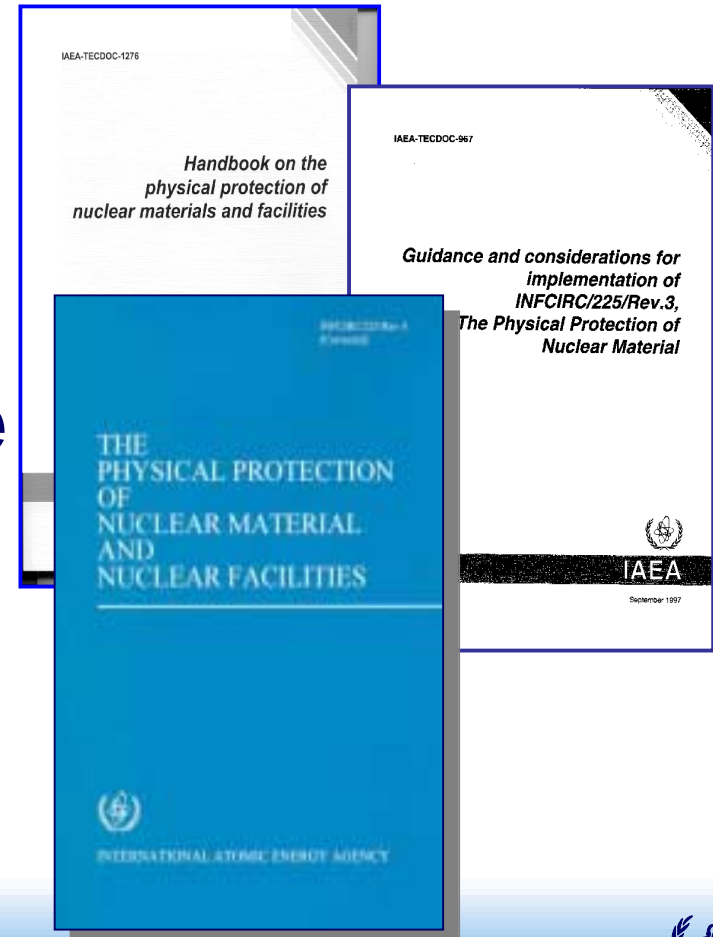
# Control of Nuclear Material

## Types of safeguards agreements

- **Comprehensive Safeguards Agreements**
  - **Additional protocols**
- **Voluntary offer agreements**
- **INFCIRC/66-Type Agreements (selected items)**
  - **In addition, special mandates were provided by the United Nations Security Council for the DPRK and Iraq**

# Some Standards and Recommendations on nuclear and other radioactive material

- **Convention on the Physical Protection of Nuclear Material**
- **Security Fundamentals**
- **INFCIRC/225/Rev.4**
- **Code of Conduct on the Safety and Security of Radioactive Sources**



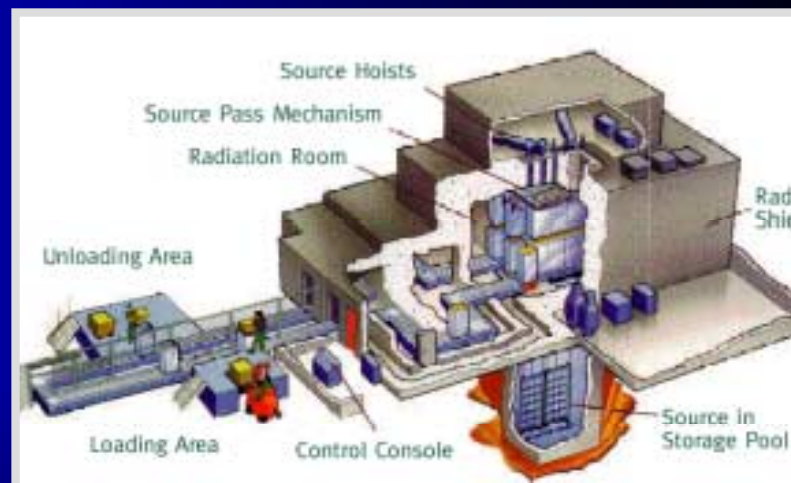
# High-intensity sources



Teletherapy unit  
(500 TBq  $^{60}\text{Co}$ )



Radioisotope thermoelectric  
generator (1000 TBq  $^{90}\text{Sr}$ )



Food irradiator  
400 000 TBq  $^{60}\text{Co}$

# Control of radioactive material other than nuclear material

## Existing IAEA measures

- *Basic Safety Standards for Protection Against Ionizing Radiation and for the Safety of Radioactive Sources*
- *Code of Conduct on Safety of Radioactive Sources*
- *Standards on the Handling, Conditioning and Storage of Spent Sealed Radioactive Sources*
- *Categorization of Radiation Sources*
- *Workshops on safety and security of sources*

# Control of radioactive material other than nuclear material

## New measures

- *Revision of Code-of-Conduct on the Safety and Security of Radioactive Sources*
- *Revision of categorization of sources*
- *Guides on the security of radiation sources, and assessment of threats to radioactive material during transport*
- *New training course on security of radioactive sources*

# Control of radioactive material other than nuclear material

## New measures

- *Assistance in developing national strategies for regaining control over orphan sources*
- *Tripartite initiative covering orphan sources*
- *Nuclear Security Action Plan and Nuclear Security Fund*

# Draft revised Code of Conduct on the Safety and Security of Radioactive Sources

- Negotiated among Agency Member States
- Contains definitions, scope and objectives, basic principles and an Annex which provides a categorization of sources
- The basic principles contain a Section on import and export of radioactive sources

# Draft revised Code of Conduct on the Safety and Security of Radioactive Sources

## Objectives

- Through the development, **harmonization and enforcement of national policies, laws and regulations** and through fostering of international co-operation:
  - To achieve and maintain a **high level of safety and security** of radioactive sources
  - To **prevent the malicious use** of radioactive sources to cause harm to individuals, society or the environment

# Scope

- Focus on **sealed, high-risk radioactive sources**  
– defined in the IAEA  
Categorization of  
Radioactive Sources (TECDOC-1344)
- **Excludes nuclear materials**, as defined in  
the Convention on Physical Protection of  
Nuclear Materials
- **Excludes** radioactive sources within the  
**military** or defense programs



# Code of Conduct

## Import and Export Provisions

- **Para. 23: Each State involved in the import or export of radioactive sources should take **appropriate steps** to ensure that transfers are undertaken in a manner consistent with the provisions of the Code and that transfers take place only with the prior notification by the exporting State and, as appropriate, consent by the importing State in accordance with their respective laws and regulations.**

# Code of Conduct

## Import and Export Provisions

- **Para. 25: Every State intending to authorize the export of such sources should consent only if can satisfy itself, **insofar as practicable**, that the receiving State has authorized the recipient to receive and possess the source, and has the appropriate technical and administrative capability, resources and regulatory structure needed to ensure that the sources will be managed in a manner consistent with the provisions of the Code.**

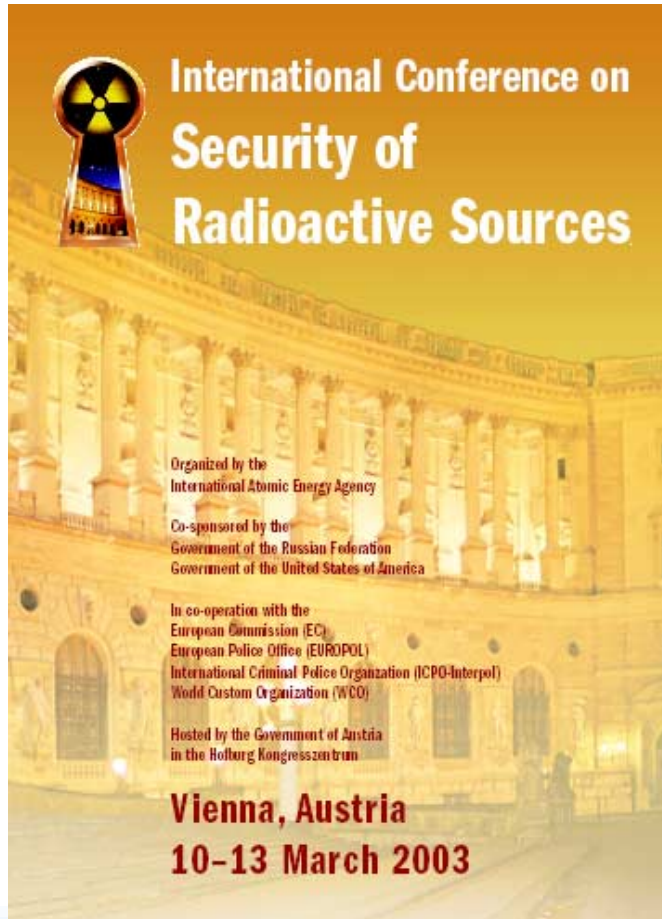
# Code of Conduct

## Import and Export Provisions

- **Para. 26: If the conditions in paragraphs 24 and 25 with respect to a particular import or export cannot be satisfied, that import or export may be authorized in **exceptional circumstances** with the consent of the importing State if an alternative arrangement has been made to ensure the sources will be managed in a safe and secure manner.**

# International Conference on Security of Radioactive Sources

May 2003



- *"States should make a concerted effort to follow the principles in the Code of Conduct on the Safety and Security of Radioactive Sources as well as the security requirements in the IAEA Basic Safety Standards"*
- *"The IAEA should promote broad adherence to the Code of Conduct once its revised version has been approved"*