



China's Nuclear Security and Related International Cooperation Practice

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Outline

- **Nuclear Terrorism Threats**
- **Nuclear Security and Nuclear Safety**
- **International Obligation**
- **Legal Framework**
- **Management Instruments**
- **International Cooperation Practice**

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





Nuclear Security and Nuclear Safety

- **Nuclear Security:**

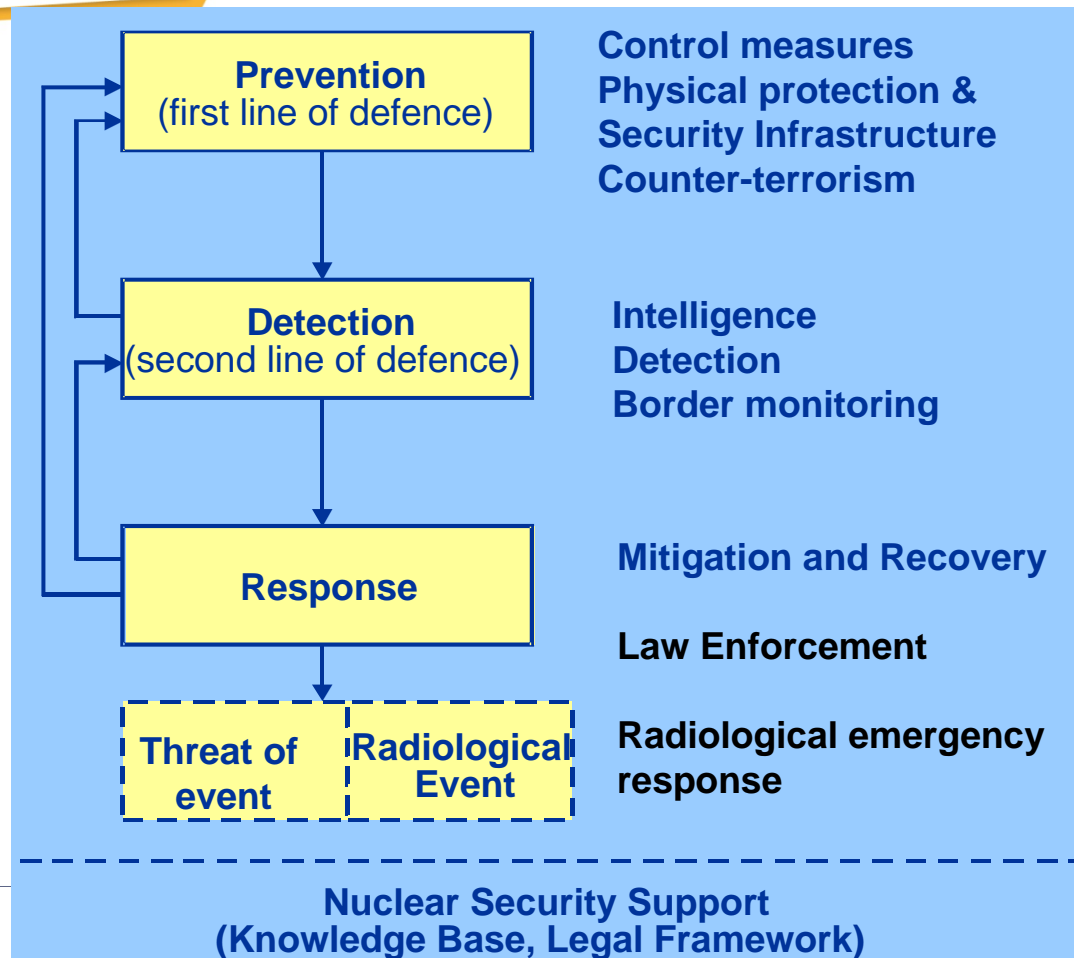
The prevention and detection of, and response to, theft, sabotage, unauthorized access, illegal transfer or other malicious acts involving nuclear material, other radioactive substances or their associated facilities.

- **Nuclear Safety:**

The achievement of proper operating conditions, prevention of accidents or mitigation of accident consequences, resulting in protection of workers, the public and the environment from undue radiation hazards.

Comprehensive Nuclear Security Approach

Sharing and learning
vs.
Protection of confidentiality



Regulatory Framework
Derived from International Legal Instruments

International Obligation

International Conventions

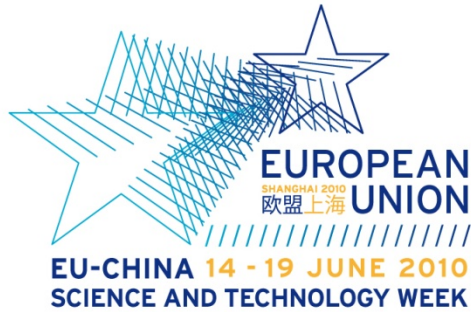
- Treaty on the Non-Proliferation of Nuclear Weapons 1992
- International Convention for the Suppression of Terrorist Bombings (UNGA Resolution 52/164, Annex) (1997) 2001
- International Convention for the Suppression of Acts of Nuclear Terrorism (UNGA Resolution 59/290) (2005) 2005

Regional Agreements

- Regional Non-Proliferation and Nuclear Weapons Free Zone Treaties

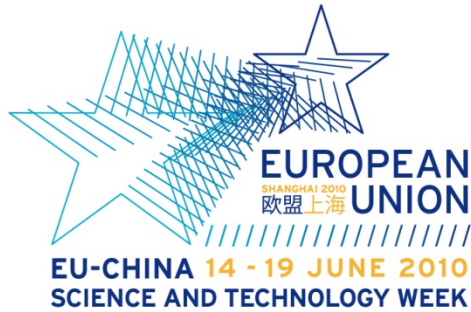
United Nations Security Council Resolutions

- 1373 (2001), *Threats to international peace and security caused by terrorist acts*
- 1540 (2004), *Non-proliferation of weapons of mass destruction*



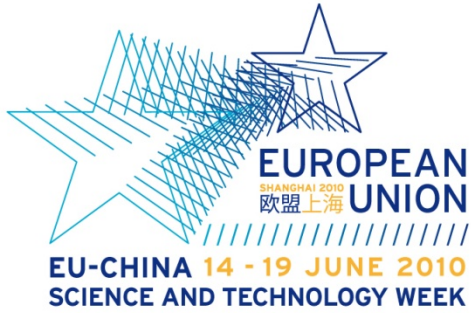
International Obligation

- Convention on Early Notification of a Nuclear Accident 1986
- Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency 1986
- Convention on the Physical Protection of Nuclear Material and the 2005 Amendment thereto 1989/2005.7/2008.10
- Convention on Nuclear Safety 1996
- Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management 2005.9



Legal Framework

- Regulations of the PRC on Nuclear Materials Control (1987)
- Regulations of the PRC on the Control of Nuclear Export (1997/2006)
- Regulations of the PRC on the Control of Nuclear Dual-Use Items and Related Technologies Export (1998/2007)
- Regulations on Radiological Protection from Radiological Isotopes and Ray Devices(2005)
- Rules for the Implementation of Regulations on Nuclear Materials Control (1990)
- Rules on Physical Protection for Nuclear Materials International Transport (1994)
- Rules on Inspection of Nuclear Materials Control (1997)
- Rules on Security of Nuclear Power Plants (1997)
- Rules on Radioactive items import and export license application and cooperation safeguards.(2002)



Management Instruments

**Ministry of
Public Security**

**Ministry of
Environmental
Protection**

**China Atomic Energy Authority
(CAEA)**

**General Administration
Of Customs**

**Ministry of
Foreign Affairs**



China Atomic Energy Authority (CAEA)

China Atomic Energy Authority

Office of Nuclear Material Control/
Office of Nuclear Emergency

- *SSAC*
- *License Review*
- *Inspection*
- *Rule-making*

Technical Support
Organizations

- *R & D of Safeguards Technology*
- *Technical Support for Inspection*
- *Personnel Training*

Facilities



International Cooperation Practice

1. China-US Joint Demonstration at CIAE on 24 October 2005 in Beijing.
2. Ceremony of the CAEA-IAEA Joint Training Center on Nuclear Safeguards and Security, 2006
3. CAEA-IAEA Practical Cooperation Arrangement on Nuclear Security, 2007
4. Upgrade of physical protection system for radioactive sources at Irradiation Center of the Chinese Academy of Agriculture Sciences, 2007
5. Packaging transuranic sources, 2007

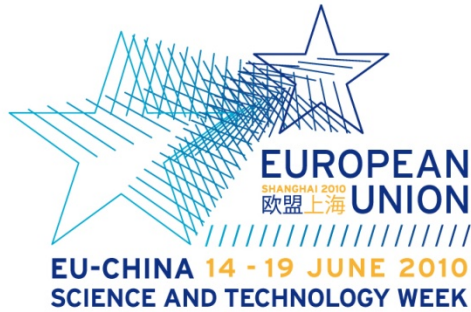


International Cooperation Practice

- **A. Technical Support/Advisory Missions:**
- **2006 -2008**
- (1) Nuclear Security for Beijing Olympics 2008 – Athens/Vienna, 10-14 July
- (2) Nuclear Security Cooperation with China – Beijing, 22-30 January 2007
- (3) Assessment Mission on the Nuclear Security Needs of China for the 2008 Beijing Olympic Games, Beijing, from 8 to 12 October 2007
- (4) Technical Advisory Mission to Provide Advice on Detection and Response Capacities and Equipment Deployment Strategy at Venues in connection with the 2008 Beijing Olympic Games



**CAEA-IAEA Practical Cooperation Arrangement on Nuclear Security
June, 2007**



International Cooperation Practice cont.

B. Training Courses, Seminars and Exercises:

2006

- (1) National Training Course on Physical Protection
- (2) Regional Training Course on Accounting for and Control of Facility Grade Nuclear Material
- (3) National Training Course on Detection and Response

2007

- (1) Regional Training Course on Advanced Detection Equipment (for high level officials)
- (2) Regional Training Course on Combating Illicit Trafficking Activities in Nuclear and Other Radioactive Materials
- (3) National Training Course on Response to unauthorized acts involving nuclear and other radioactive materials

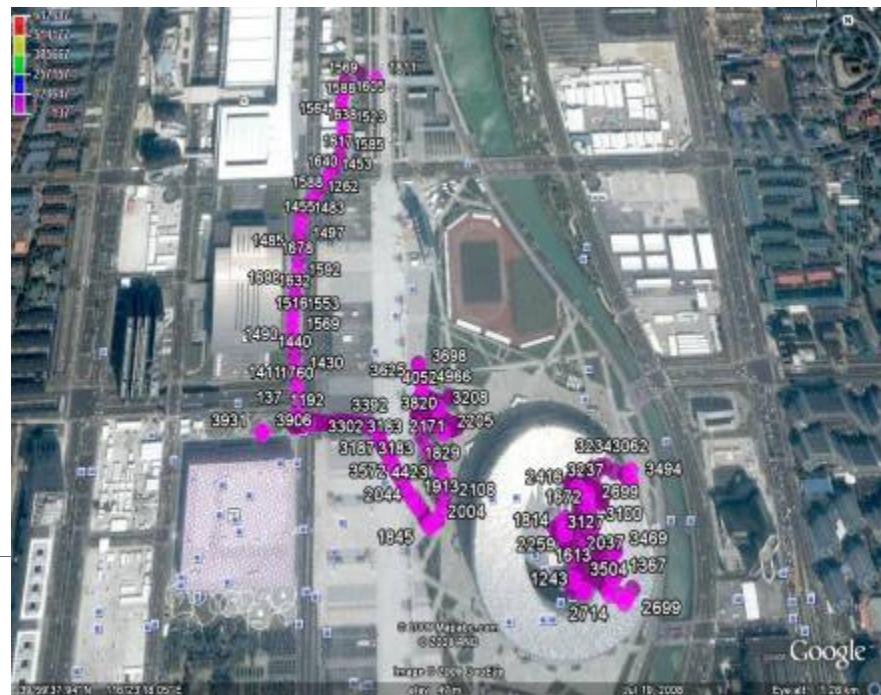
2008

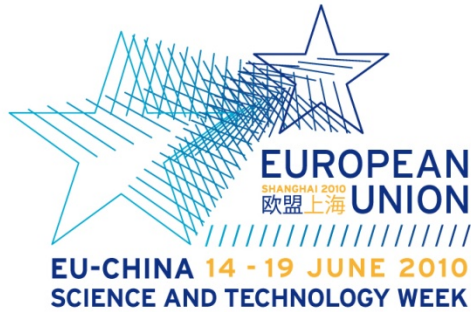
- (1) NTC on the Security of Radioactive Sources
- (2) ITDB Awareness Seminar for 2008 Olympic Games
- (3) NTC - Radiation detection at strategic locations for security personnel (front line officers) in the context of the 2008 Olympics
- (4) National Workshop: Malicious Acts Involving Radioactive Materials in a Major Public Event ; Detection, Interdiction and Response



International Cooperation Practice cont.







International Cooperation Practice cont.

United States of America

- Department of Energy/National Nuclear Security Administration (DOE/NNSA): Office of Global Threat Reduction Initiative
- DOE China Office
- Los Alamos National Laboratory: Off-Site Source Recovery Project
- Sandia National Laboratory
- Oak Ridge National Laboratory

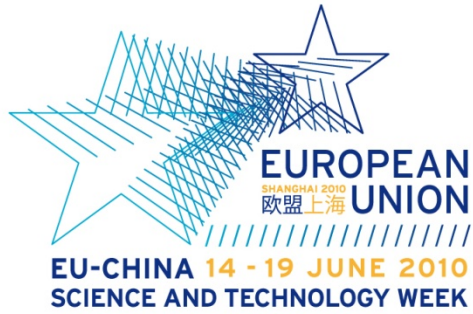
People's Republic of China

- China Atomic Energy Authority (CAEA)
- China Institute of Atomic Energy (CIAE)
- National Nuclear Security Administration-State Environmental Protection Agency (NNSA-SEPA)
- Beijing Environmental Bureau
- Tianjin Environmental Bureau
- Qingdao Environmental Bureau
- China National Nuclear Corporation (CNNC)
- Beijing Olympic Organizing Committee
- Beijing Municipal Public Security Bureau
- Fourth Institute of Nuclear Engineering
- Everclean Environment Engineering Corporation

International Cooperation

cont.

- Implement radioactive source recoveries and physical security system upgrades at facilities near Olympic venues.
 - Total of 11 facilities at eight IAEA Cat I sites with over 7 million curies protected
 - Total of over 32,000 curies from 27 sites removed securely to interim storage or long-term storage sites
- Workshop on Detection and Emergency for 2008 Olympics Security
 - co-organized by MFA, CAEA and US DOE/NNSA, December, 2007



Future Work

Nuclear Center of Excellence



- Thank you for your attention!