Implementation of a Nuclear Security Regime in the Kingdom of Morocco
Outline

• Use of nuclear and other radioactive material in Morocco;
• International commitments and cooperation;
• Legal and Regulatory Framework;
• National Approach to enhance nuclear security;
• Summary.
Use of nuclear material

- Nuclear Research Center of Maamora (CNESTEN):
  - 2 MW Research reactor
  - Radioactive waste treatment and interim storage facilities
  - Radioisotopes Productions Labs
Use of radioactive material

• Over than **1200** radioactive sources used in **~100** facilities:
  – Medical applications
    • Gamma knife
    • Brachytherapy (HDR)
  – Industrial applications
    • Gamma radiography
    • Gauges
  – Agriculture (irradiator)
  – Research.
Commitment to International legal instruments

**Binding instruments**

- Convention on the Physical Protection of Nuclear Material *(ratified in 2002)*;
- Amendment to the Convention on the Physical Protection of Nuclear Material *(ratified in 2015)*;
- The International Convention for the Suppression of the Financing of Terrorism, *(ratified in 2002)*
- International Convention for the Suppression of Acts of Nuclear Terrorism *(ratified in 2010)*;
- UNSCR 1540 & 1373
- Conventions on Early Notification and assistance *(ratified in 1993)*;

**Non binding instruments**

- *Code of Conduct of the Safety and Security of Radioactive Sources*
- Import and export guidance
Legal Framework

- Law 142-12 set provisions to establish:
  - A unique and independent authority: AMSSNuR;
- Law 142-12 covers safety, security and safeguards aspects;
- Law 02-02 on civil liability;
- Law 03-03 on criminalization of acts of terrorism;
- Draft law on dual uses.
Legal Framework (Law 142-12)

- Competent authorities are responsible for:
  - Establishing a Physical Protection System based on DBT and in graded approach;

- AMSSNuR is responsible for:
  - A licensing and physical control system;
  - Establish an inventory of radioactive sources and NMAC system;
  - Searching and securing orphan sources;
  - Setting up Security measures during international transport.

- The licensee is the prime responsible for security of nuclear or other radioactive material
Legal Framework

- **Enforcement:**
  - Law 142-12 set provisions to establish
    - A set of penalties with a graded approach
  - Law 03-03 set provisions to criminalize deliberate acts of terrorism in using, inter alia, nuclear or other radioactive material
Legal Framework
Regulatory Framework on security

• A set of regulatory text shall be issued by 2019:
  – Regulation on security of radioactive sources;
  – Regulation on Physical Protection on nuclear material and associated facilities;
  – Technical regulation on reliability and access control; and
  – Technical regulation on information and computer security.
cooperation

- **IAEA**, US NRC, US DOE, EC, Spain, etc...;
- The Global Initiative to Combat Nuclear Terrorism;
- The Nuclear Security Summit;
- Office of Radiological Security program;
- Integrated National Nuclear Security Support Plan;
- CBRN Centre of excellence;
Practical Measures to enhance nuclear security

- Licensing and physical control system
- National inventory of Radioactive Sources;
- Enhancement of security in cat 1&2 facilities;
- Detection on boarders and scrap metals dealers facilities.
- National interim storage facility at CENM site;
Training: NSSC

- 1300 Persons trained (~75% nationals)
- 6 events/year
- 200 persons trained/year
- 40 training

2010-2015
Summary

- Morocco has established an adequate basis to implement an effective nuclear security regime:
  - Party to a set of international legal instruments;
  - Comprehensive law;
  - An independent regulatory body;
  - Partner of several initiatives and programs for security.