The Role of the Nuclear Regulatory Authority of Argentina in the Implementation of the Convention on the Physical Protection of Nuclear Material (CPPNM) and its Amendment

ROSTON, Maria Victoria
Nuclear Regulatory Authority, Argentina
mroston@arn.gob.ar

ACOSTA, Gabriela Maria
ZUNINO, Pablo Martin
Index

- Adoption of the CPPNM and its Amendment in Argentina
- Nuclear Regulatory Authority (ARN) of Argentina
- Standard for the Physical Protection of Nuclear Material and Installations
- Physical Protection of Nuclear Materials during Transport
- Responsibility
- Importance of the CPPNM/A
- Conclusions
Adoption of the CPPNM and its Amendment in Argentina

✓ Only legally binding international instrument in PP of NM area.

• CPPNM:
  - Prevention, detection and punishment of offences related to the international transport of NM.

• CPPNM/A:
  - PP of NM in use, storage and transport.
  - Cooperation among States.

✓ Argentina adopted the CPPNM by law in 1988.

✓ Argentina participated actively in the 2005 Conference and adopted the CPPNM/A in 2010.
Adoption of the CPPNM and its Amendment in Argentina (cont’d) Legal and Regulatory Framework

- Argentine Constitution
- International Treaties / Conventions
- Nuclear Activity National Act.
- Argentine Regulatory Standards
- Mandatory Documentation: Licences, Requirements
- Argentine Regulatory Guides
Adoption of the CPPNM and its Amendment in Argentina (cont’a)
Preexisting legal instruments

**Article 7:** punishable offences (use without lawful authority, theft, sabotage, smuggling, illicit trafficking, etc.).

- **Penal Code** (1922): establishes penalties for crimes against public safety, public health, public order and security of the Nation.

- **National Law** "Penalties for those who attempt against the Security of the Nation“ (1950): considers the sabotage as an action of betrayal to the Nation.

- **Customs Code** (2005): defines smuggling as a customs offence and determines a more severe penalty in the case of nuclear materials.
Nuclear Regulatory Authority (ARN)

• Independent body reporting directly to the Presidency of Argentina (National Nuclear Activity Act: Law 24.804),
• Autarchic entity with federal competence,
• National governmental organization in charge of the regulation of nuclear activities in Argentina,
• Competence on radiation and nuclear safety, safeguards and physical protection,
• Objective: to develop and apply a regulatory regime for all nuclear activities in the country.
Nuclear Regulatory Authority (cont’a)

Functions

• To issue mandatory regulatory standards,
• To grant licenses and permits to facilities and operators,
• To control the compliance of requirements stated in standards and license condition and enforcing the compliance by gradual means,
• To apply of sanctions corresponding to their violation.

Physical Protection:

• ARN has the authority to require a complete system of physical protection for nuclear materials and facilities.
GEOGRAPHICAL DISTRIBUTION OF FACILITIES
Installations under regulatory control in 2016

- A.R.N. BUENOS AIRES (HEADQUARTERS)
- CONTROLLED RADIOISOTOPE CENTERS
- HEAVY ION ACCELERATORS TANDAR- CONSTITUYENTES A. C.
- LINEAL ACCELERATOR LINAC - BARILOCHE ATOMIC CENTER
- ATOMIC CENTERS (CONSTITUYENTES - EZEIZA - BARILOCHE)
- MINING FACILITIES - MENDOZA
- MINING FACILITIES CLOSED
- NUCLEAR POWER PLANTS UNDER CONSTRUCTION (ATUCHA II)
- OPERATING NUCLEAR POWER PLANTS (ATUCHA I – EMBALSE)
- C.N.E.A RADIOACTIVE WASTE MANAGEMENT FACILITY
- RESEARCH AND PRODUCTION REACTORS
- RESEARCH REACTORS AND CRITICAL ASSEMBLIES
- URANIUM DIOXIDE PRODUCTION PLANT - CORDOBA
- NUCLEAR MEDICINE SCHOOL - MENDOZA
- URANIUM PRODUCTION PLANT - MENDOZA
- URANIUM PRODUCTION PLANT
- URANIUM ENRICHMENT PLANT - RIO NEGRO
- NUCLEAR FUEL PLANT - C.A.EZEIZA
- HEAVY WATER PRODUCTION PLANT - NEUQUEN
- SEWER MUD IRRADIATION PLANT - TUCUMAN

TOTAL 1255
Standard for the Physical Protection of Nuclear Material and Installations

- **Performance basis**: non-prescriptive in nature.
- **Objective**: to establish the general criteria for the physical protection of nuclear materials and installations.
- **Scope**: applicable to protected materials, within relevant installations, in storage and during transport.
- **Sections**: objective and scope, definitions of terms, criteria, levels of physical protection and responsibilities.
- **PPS**: set of people and means available with the capacity to prevent, delay or avoid malevolent acts. It also establishes desirable characteristics.
- **Focus**: prevention and deterrence through the use of passive measures.
Levels of Physical Protection

Criteria:

1) Type, characteristics, quantity and accessibility of the protected material,
2) Possibility of intentionally inducing accidents with severe radiological consequences.

- PPS designed for each installation according to its characteristics.
- Identifying structures, systems and components essential to the protection function.
- PPS compatible with radiological and nuclear safety systems and emergency plans.
- Vital areas separated and delimited to restrict access.
- Level of PP proportional to the doses that the most exposed member of the public could receive.
Physical Protection of NM during Transport

Levels / procedures / recommendations for the PF of NM during inter-national transport determined by the categorization of NM provided by CPPNM in Annex II.

Measures to optimize PP of NM during transport:

- Minimization of the total time of transport,
- Physical protection according to the material category,
- Confidentiality of information,
- Cross-checks on reliability of staff,
- Avoidance of regular roads,
- Use of escort vehicles,
- Permanent communication and satellite tracking.
Responsibility

- **Responsibility** for physical protection lies upon the **holder** of the license/permission/authorization granted by the ARN.

**Responsible Entity** must:

- Ensure physical protection,
- Designate a manager for PP for each installation and/or transport,
- Guarantee the confidentiality of the information,
- Submit technical documentation,
- Perform audits to verify the correct implementation of PPS,
- Establish and maintain a communication system with response forces.
Importance of the CPPNM/A

- IAEA’s key role → Strengthen global nuclear security
- Efforts → Universalization of CPPNM/A
- Promotion → Regional adherence
- RWS 2012, Argentina → Facilitating Adherence & Implementation CPPNM/A
Conclusions

Challenges:

✓ Raising awareness of the importance of the CPPNM and its Amendment.
✓ Coordination at the national level among institutions.
✓ Offences incorporated to Article 7 → national legislations review.
✓ Updating regulations and procedures.
✓ Strengthening bonds at the regional level.
✓ International communication & cooperation.