Nuclear Security: Physical Protection, Illicit Trafficking and Nuclear Terrorism

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STRUCTURE OF PRESENTATION
Focus on int’l & national law aspects – State, regulatory body, competent authorities & other organizations, international cooperation

PART 1 Basic Overview: Definitions, Nuclear Security (prevention, detection & response), Nuclear Terrorism, Illicit Trafficking & Physical Protection, Basic Responsibilities
PART 2 Introduction: Int’l Legal Framework for Nuclear Security
PART 3 Scenario 1: An act of Illicit Trafficking - some response issues
PART 4 Scenario 2: An Act of Nuclear Terrorism - some response issues
PART 5 Post Scenarios: National Nuclear Security Regime - some prevention & response issues (incl. legislative & regulatory framework, physical protection, accounting & control, import/ export controls, criminal justice aspects, int’l coop. aspects)
Part 6 Take Away Messages & Concluding Thoughts
Part 1: Basic Overview

What terms do you see?
NUCLEAR SECURITY
Prevention, Detection/Response (P+D+R)

• Essential elements of nuclear security:

  (1) PREVENTION/DETECTION; & (2) RESPONSE to

  • to malicious acts - theft, sabotage, unauthorized access, illegal transfer etc

  • involving nuclear material (NM); other radioactive material (RM); & associated facilities
    (NFs - NPPs, RM storage facilities etc)

  [see: AdSec definition (2002); & IAEA NSS Fundamentals no. 20 (2012)]

• The international instruments that will be discussed are relevant to one or other or both of these two elements, albeit from different perspectives

NUCLEAR SECURITY: Prevention, Detection/Response (P+D+R)
Some components

FIRST LINE OF DEFENCE

PREVENTION

Security infrastructure
Physical protection system
Accountancy & control
Criminalization

SECOND LINE OF DEFENCE

Detection

THIRD LINE OF DEFENCE

Response

Threat management
Emergency preparedness & response (EPR)
Int’l coop.
Return of seized material
Criminal justice response
Crime scene management
Nuclear forensics

FIRST LINE OF DEFENCE

Radiation monitoring at borders & other places
Equipment & training of law enforcement officers
Intelligence
NUCLEAR SECURITY

Non-State Actors: Terrorists or other Criminals
(group or individual) (insider or external)

Adversaries

THREAT
to commit a 'malicious act'

Targets

unauthorized removal
sabotage

nuclear weapons (NWs)
nuclear material (NM)
other radioactive material (RM)
nuclear facility (e.g. NPP) & other facilities or transport of NM or other RM

intentional unauthorized removal from regulatory control > out of regulatory control

acts

improvised nuclear explosive device (IND)
radioactive dispersal device (RDD) ('dirty bomb')
radioactive exposure device (RED)

unacceptable rad. consequences

Some Key Definitions:

Nuclear Material (NM) - 4 categories: Plutonium, Uranium-235, Uranium-233 & irradiated fuel (see CPPNM/ACPPNM)
Nuclear Facilities (NFs) i.e. NPP, research reactors

Other Radioactive Material (RM) i.e. radioactive sources & other Nuclear Facilities (NFs) i.e. storage facility for radioactive sources

Associated activities i.e. transport of NM or other RM

Device i.e. Nuclear Weapon (NW), Improvised Nuclear Explosive Device (IND) Radioactive Dispersal Device (RDD - 'Dirty Bomb'), Radioactive Exposure Device (RED)
• Nuclear security is the responsibility of each individual country, but int’l coop. is vital to support States in establishing & maintaining effective nuclear security regimes

• The central role of the IAEA in facilitating such cooperation & providing assistance to States, is well recognized

• The IAEA's role reflects its broad membership, its mandate, its unique expertise & its long experience of providing technical assistance & specialist, practical guidance to States

• Since 2006, the IAEA has issued Nuclear Security Series publications to help States to establish effective national nuclear security regimes

• These publications complement international legal instruments on nuclear security

NUCLEAR TERRORISM

The constantly evolving threat of nuclear terrorism is recognised in various fora as one of the greatest challenges to international security
What is Nuclear Terrorism?

• No general international agreement on a precise and universal definition of terrorism – work continues in the UN on a comprehensive convention on international terrorism


  “intimidate a population” - “compel a government or an international organization” - “provoke a state of terror”

What is Nuclear Terrorism?

• No international instrument contains a precise definition of nuclear terrorism

• Exists a broad universal counter-terrorism legal framework of 19 treaties, 7 of which are related to nuclear security:
  • require incrimination of certain offences independently of the definition of the term “terrorist” or “terrorism”: terrorist motive/ intent may be considered as an aggravating circumstance

• These instruments incl. provisions incorporating so-called:
  • general intent i.e. which causes or is likely to cause [...] (CPPNM, ACPPNM),
  • specific intent i.e. to cause [...], to compel [...] (UN Nuclear Terrorism Conv.)
PHYSICAL PROTECTION (PP)

nuclear material (NM) & nuclear facilities (NFs)

• PP has long been a matter of national & int’l concern & coop. (IAEA guidance since early 1970s)

• Historically, the term ‘physical protection’ (i.e. Gates, Guards, & Guns) has been applied to NM & NFs & used to describe what is now known as ‘nuclear security’

• PP objectives: protect against theft & sabotage; locate & recover stolen material; & mitigate radiological consequences of sabotage

• Adequate PP is an essential element in the first line of defence: clear link between illicit trafficking & the adequacy of PP measures applied by States

• Two facets of protection:
  • Establishing & maintaining effective inventory, accountancy & controls
  • Physical protection (pp)
ILLICIT TRAFFICKING
NM & other RM

• Unauthorized receipt, use, possession, transfer or disposal of NM or other RM, whether intentional or unintentional, or whether the material has crossed an international border

• Material may be reported as being out of regulatory control; may be lost, missing or stolen but not reported as such, or may otherwise have been discovered

• Multiple int’l legal instruments provide a basis for a State’s nuclear security regime for preventing, detecting & responding to material that is out of regulatory control & otherwise combatting illicit trafficking

• For the purpose of criminalisation, the ACPPNM contains a definition of an act which may be considered as a punishable offence of illicit trafficking (or smuggling) of NM, as well as ancillary offence:

  • “The intentional commission of: an act which constitutes the carrying, sending, or moving of nuclear material into or out of a State without lawful authority” (new art. 7(d))

ILLICIT TRAFFICKING
NM & other RM

• Ultimate responsibility for combating illicit trafficking of NM & other RM rests with the State

• First addressed through prevention (1st line) but if this fails, need for a robust 2nd line of defence such as effective border control measures to detect

• Complex of measures incl’d:
  • physical protection (PP)
  • accountancy & control
  • import & export
  • appropriate border controls
  • law enforcement systems & measures
Basic Responsibilities

STATE

Overall responsibility for nuclear security within a State rests entirely with that State - nuclear security often sub-set of national security

- establishing, implementing & maintaining of a ‘national nuclear security regime’ incl. legislative & reg framework, PP requirements
- combatting nuclear terrorism & illicit trafficking
- defining of roles & responsibilities
- responding to ‘nuclear security events’

INTERNATIONAL NUCLEAR COMMUNITY (States, IGOs etc)

- It is not a matter of indifference to other States whether & to what extent that responsibility is fulfilled - a major nuclear security failure anywhere has the potential to impact everywhere
- All States, incl. those which have no RM on their territories, are vulnerable to illicit trafficking
- IAEA’s acknowledged central role in facilitating & coordinating international cooperation on nuclear security

Part 2: Introduction

Int’l Legal Framework for Nuclear Security
INT’L LEGAL FRAMEWORK FOR NUCLEAR SECURITY

• Int’l legal framework of treaties, UN Security Council Resolutions, Code of Conduct

• Supplemented by IAEA:
  
  • guidance designed to enable fulfilment of obligations & commitments
  
  • services, training, assistance & missions, to facilitate implementation

INT’L LEGAL FRAMEWORK FOR NUCLEAR SECURITY

No single int’l instrument addresses nuclear security in a comprehensive manner

https://ola.iaea.org
INT’L LEGAL FRAMEWORK FOR NUCLEAR SECURITY

UNIVERSAL LEGAL FRAMEWORK AGAINST TERRORISM (7 treaties, 2 UNSCRs)

PHYSICAL PROTECTION REGIME (IAEA)
- CPPNM
- CPPNM Amendment (ACPPNM)
- NPT (1968)
- Nuclear Terrorism Conv.
- UN Security Council
- IMU
- ICAO
- INT’L LEGAL FRAMEWORK AGAINST TERRORISM

SEIZED RADIOACTIVE SOURCES (IAEA)
- Import/Export Guidance (2004; 2011)
- Disused Source Guidance (2017)

EMERGENCY PREPAREDNESS & RESPONSE (IAEA)
- Early Notification & Assistance Conv.
- IAEA Incident and Emergency Centre (IEC)
- INFCIRC/225 Rev.5

INT’L LEGAL FRAMEWORK AGAINST TERRORISM

UN General Assembly

Quick TimeLine (see Detailed Timeline - Handout)

New/amendment of int’l legal instruments
e.g. CPPNM Amendment, UN Nuclear Terrorism Convention, UNSCRs

Evolving nuclear terrorist threat
Threat to int’l peace & security

Post-cold war concerns:
security of NWs, NFs, RM unaccounted for & unsecured,
illicit trafficking
(e.g. Nunn–Lugar Act or Cooperative Threat Reduction (CTR) program
focused on Former Soviet Union (FSU) countries (90s)

Focus on physical protection

1970s
Rise in int’l terrorism, hijackings,
nuclear commerce, regulatory weaknesses

1980-90s
CPPNM (1980)
INFCIRC/225 (1975) (1972 grey book)

1st IAEA “Security of Material” Programme (1997-98)
IAEA Incident and Trafficking Database (ITDB, 1995)
IAEA IPPAS service (1995)

Beyond physical protection
e.g. nuclear forensics, cyber-security

1st IAEA comprehensive programme to combat nuclear terrorism (2002)
IAEA PP Objectives & Fundamental Principles (2001)

Multiple initiatives e.g. GICNT, GTRI, Summits

Post 9/11

Post 9/11
Beyond physical protection
1970s
1980-90s
INT’L PHYSICAL PROTECTION REGIME: NM & NFs

Some of the int’l instruments & texts on nuclear security comprise the int’l physical protection regime

UNSCR 1540 (2004): To prevent NWs proliferation incl. means of delivery & related materials: Develop & maintain appropriate effective PP measures (OP. 3(b) & See also NPT, NWFTs)

Convention on the Physical Protection of Nuclear Material (CPPNM) [see Extra Slides for more info.]

- **Key Points:**
  - Part of the universal counter-terrorism framework
  - Primary focus on materials in int’l trade
  - Some requirements applicable to domestic measures (art. 2.2)
  - Evolving threat led to amendment in 2005 – sabotage of NPP, illicit trafficking/ smuggling

- **Salient provisions:**
  - PP of NM (used for peaceful purposes) during int’l nuclear transport only (not domestic use, storage & transport) – categories, levels, assurances
  - 3 graded categories of attractiveness for 4 materials
  - Criminalisation of offences e.g. theft (art. 7) & related provisions - jurisdiction, extradition etc.
  - Int’l co-o. & info. exchange e.g. return & recovery of stolen/lost NM, mutual legal assistance, PP systems (int’l transport)

**Text:** INFCIRC/274/ Rev.1
Amendment of the CPPNM in 2005 & the Entry Into Force of the Amendment in April 2016

Statement by IAEA Director General Yukiya Amano, 8 April 2016

VIDEO


(key points):
- 2016 entry into force marks a milestone in efforts: focus now on universalization
- Does not apply to NM used for military purposes or NFs containing such material
- Adds definitions of "nuclear facility" & "sabotage" (new art. 1(e) & (d))
- Submission of implementing laws & regs. (art. 14)
- 2021 review conference (art. 16)

CPPNM Amendment (ACPPNM)
[see Extra Slides for more info.]

116 Parties (incl. EURATOM)

Salient provisions:
- Extends the CPPNM's scope to NFs & NM in peaceful domestic use, storage & transport
- New core undertaking: establish, implement & maintain an appropriate PP regime
- Codifies 12 Fundamental Principles of PP (GC(45)/INF/14) to be applied "insofar as is reasonable and practicable"
- New offences incl. nuclear smuggling/illicit trafficking (new art. 7.1(d) & sabotage (new art. 7.1(e))
- Expands int’l co-operation in case of or threat of sabotage, & preventing & combating related offences
- Protection of confidential information (art. 16 changes)
### ACPPNM

**Fundamental Principles of Physical Protection of Nuclear Material & Nuclear Facilities (new art. 2A(3))**

New art. 2A(3): "[...] apply insofar as is reasonable and practicable the Fundamental Principles of Physical Protection of Nuclear Material and Nuclear Facilities"

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<thead>
<tr>
<th><strong>A.</strong> Responsibility of the State</th>
<th><strong>G.</strong> Threat</th>
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<tr>
<td><strong>B.</strong> Responsibilities during Int’l Transport</td>
<td><strong>H.</strong> Graded Approach</td>
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<td><strong>C.</strong> Legislative &amp; Regulatory Framework</td>
<td><strong>I.</strong> Defence In Depth</td>
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<td><strong>D.</strong> Competent Authority</td>
<td><strong>J.</strong> Quality Assurance</td>
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<td><strong>E.</strong> Responsibility of Licence Holders</td>
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<td><strong>F.</strong> Security Culture</td>
<td><strong>L.</strong> Confidentiality</td>
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**Belgium (ratified 22 Jan. 2013):** Upon ratification

"[...] the Belgian Government considers that the fundamental principles of physical protection of nuclear material and nuclear facilities do not, in themselves, constitute legal obligations."

### CPPNBM & Amendment

**Some Key Changes**

<table>
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<tr>
<th>PHYSICAL PROTECTION (PP)</th>
<th>CRIMINALIZATION (&amp; related provisions)</th>
<th>INT’L COOPERATION</th>
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<tbody>
<tr>
<td>NM during int’l transport</td>
<td>theft, possession, transfer, dispersal etc.</td>
<td>info. exchange: recovery or protection of stolen NM</td>
</tr>
<tr>
<td></td>
<td>ancillary offences (attempts &amp; participation)</td>
<td>coop. &amp; assistance: mutual legal assistance (MLA); int’l transport PP systems</td>
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<tr>
<td><strong>AND</strong></td>
<td><strong>AND</strong></td>
<td><strong>AND</strong></td>
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<tr>
<td>NM during domestic use, storage &amp; transport; NFs</td>
<td>illicit trafficking (nuclear smuggling) &amp; sabotage etc.</td>
<td>expanded coop., assistance &amp; info. exchange: sabotage or threat thereof</td>
</tr>
<tr>
<td>&quot;core&quot; undertaking: PP Regime (legislative &amp; regulatory framework etc); apply ‘fundamental PP principles”</td>
<td>substantial damage to the environment</td>
<td></td>
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<tr>
<td></td>
<td>ancillary offences (organisation or direction)</td>
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Physical Protection Recommendations
IAEA INFCIRC 225/Rev.5, IAEA NSS No. 13 (2011)

1972 (revised in 77, 89, 93, 98 & 2011) cornerstone of the int’l PP regime

225 – the “hand”; CPPNM/ACPNNM the “glove”

PP of NM in use, storage & transport - domestic & int’l

nuclear facilities & sabotage categories of NM – as in CPPNM/ACPNNM

Key Points:
- Widely recognized & applied standard: national regs., bilateral agreements & IAEA Project and Supply Agreements
- Int’l community expects application
- Guidance for implementation of relevant int’l instruments: CPPNM & ACPNNM
- As for CPPNM & ACPNNM, focuses principally on prevention element of NS but also addresses response element

Salient provisions
- Recommended requirements to achieve the 4 PP Objectives & to apply the 12 Fundamental Principles of PP whether domestic or int’l, peaceful or military

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TAKEN AWAY MESSAGES:
Physical Protection (PP) of NM & NFs

Nuclear Security & PP
PP has long been a matter of national & int’l concern & coop.

Int’l PP Regime
Comprised of CPPNM, ACPNNM & INFCIRC 225 Rev.5 & other related instruments

Prevention & PP
Adequate PP is the first line of defence & a key element of NS

CPPNM & ACPNNM
What to protect rather than the precise details of how to protect it (see INFCIRC/225 Rev.5)

PP of NM & NFs
Only int’l legally binding undertakings on the PP of NM (CPPNM) & NFs (ACPNNM) used for peaceful purposes

Nuclear Material & Facilities
Not “other RM” (or “associated facilities” (see UN Nuclear Terrorism Conv.)
### Security of Radioactive Sources (& safety)

**IAEA Code of Conduct & supplementary guidance**

<table>
<thead>
<tr>
<th>Year</th>
<th>Code/Supplementary Guidance</th>
<th>Points of Contact</th>
<th>Key Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>Code of Conduct (high-risk sealed rad. Sources (Cat. 1-3))</td>
<td>political commitment: Code – 136 States; Guidance – 111 States</td>
<td>Sealed not unsealed sources &amp; not NM (except rad. source with Pu.239))</td>
</tr>
<tr>
<td>2004/11</td>
<td>Supplementary guidance (import/export (Cat. 1-2))</td>
<td>formalized info. exchange process (2006)</td>
<td>142 designated Points of Contact</td>
</tr>
<tr>
<td>2017</td>
<td>Supplementary guidance (disused sealed rad. sources)</td>
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**Key Points**
- Guidance on: development, harmonization & implementation of national policies, laws & regs. for the establishment of an adequate system of regulatory control
- IAEA non-binding instruments (Board / GC) BUT broad consensus
- Security provisions reflected in NSS Nos. 14 & 11
- Both prevention & response elements of NS

### Emergency Preparedness & Response (EPR)

**Early Notification & Assistance Convvs.**

<table>
<thead>
<tr>
<th>Standards, guidance, practical arrangements &amp; mechanisms</th>
<th>notification, info. exchange &amp; assistance</th>
<th>points of contact/ authorities &amp; meeting thereof</th>
<th>radiological consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACPPNM (sabotage)</td>
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</table>

**Key Points:**
- Assistance Conv. – nuclear accident & radiological emergencies
- Early Notification Conv. – nuclear accident (notification & info. Exchange_ - actual/ potential transboundary
- Trigger (accident/ malicious act) irrelevant for activation of the int’l EPR framework/system

**Emergency Preparedness & Response (EPR)**

- Early Notification & Assistance Convvs. provide the legal framework for the int’l (IAEA) EPR framework/ system
- Supplemented by standards, guidance & practical arrangements & mechanisms incl. IAEA’s Incident & Emergency Centre (IEC) – transnational emergency
- Broad adherence: Early Notification Conv. 121 parties (incl. FAO, WHO, EURATOM); & Assist Conv. 115 parties (incl. FAO, WHO, EURATOM)
- Primarily relevant to the response element of NS: rapid info. exchange & mutual assistance with a view to minimizing radiological consequences
Universal Legal Framework Against Terrorism:
Nuclear Security Instruments

UNODC/TPB mandated by UNGA to promote ratification & implementation of all 19 nuclear security instruments comprise the broader universal legal framework against terrorism made up of 19 instruments.

IAEA, UN, IMO & ICAO treaties:
Points to Note

Common thread are provisions:

identifying certain acts as offences e.g. theft

providing for prosecution or extradition & establishment of jurisdiction

requiring criminalization thereof in domestic law

providing mechanisms for cooperation: extradition & mutual legal assistance (MLA)

no safe haven
UN International Convention for the Suppression of Terrorist Bombings
(Terrorist Bombings Convention)

1997 eff May 2001
status: 170 States Parties

“lethal device”: weapon or device

Salient Provisions:
Act: Unlawful & intentional - delivers, places, discharges or detonates
Location: At a place of public use, a State or Gov. facility, a public transportation system or an infrastructure facility
With intent to cause death or serious bodily injury (art.2(a)) or to cause extensive destruction (art.2(b))
Ancillary offences: attempts, participation (as accomplice), organization/ direction, contribution

Key Points:
Pre-9/11 adoption & eff
Primarily focuses on the criminal justice aspects of countering terrorism
Not nuclear specific: toxic chemicals, biological agents or toxins or similar substances or radiation or RM
Considered to cover 79% of all acts that are commonly categorized as terrorist acts

UN International Convention for the Suppression of Acts of Nuclear Terrorism
(Nuclear Terrorism Convention)

2005 eff 2007
status: 113 States Parties

NM, other RM, Device i.e. RDDs, REDs & INDs, Nuclear Facility (NF)

Salient provisions:
Unlawful & intentional ‘possession’ of RM or Device with intent to cause [...] or use of RM, Device or damage to an NF with intent to cause [...] or intent to compel [...] & ancillary offences (art. 2)
Ancillary offences: attempts, participation (as accomplice), organization/ direction, contribution
Adopt appropriate measures to ensure the protection of RM taking into account relevant IAEA recommendations/ functions (art. 18)

Key Points:
• Broader scope than CPPNM/ ACPNPNM: all RM (incl. rad. sources) & facilities; & military
• BUT primarily focused on criminal justice aspects of countering terrorism
• Mainly concerned with the prevention/ detection element of NS but also relevant to the response element (art. 18)
UN Security Council Resolution 1373 (2001)

**Chapter VII, UN Charter (threats to int’l peace & security)**

**Legally Binding on all 193 UN Member States**

**Prevention, Suppression & Criminalization**

**Improving Int’l Coop.**

**National Reports**

**Counter-Terrorism Committee (monitor implementation)**

**Salient Provisions:**

- **OP 1:** prevent & suppress financing of acts of terrorism
- **OP 2:** prevent & criminalise acts of terrorism
- **OP 3:** int’l coop. & adherence to & implementation of the universal counter-terrorism insts. i.e. for suppression & prevention of terrorism (now 19)

**Key Points:**

- Direct response to 9/11 - broad counter-terrorism scope
- Effective implementation requires: States to criminalise the use of territory for the purpose of financing, planning, facilitating or committing terrorist acts against other States or their citizens

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**Chapter VII, UN Charter (threats to int’l peace & security)**

**Legally Binding on all 193 UN Member States**

**Non-proliferation & non-State actors (includ. terrorists)**

**WMD & means of delivery & related materials (dual use commodities)**

**1540 Committee (monitor implementation)**

**Mandatory national reports & voluntary action plans**

**Salient Provisions:**

- Refrain from providing any form of support to non-state actors
- Adopt & enforce “appropriate effective” laws prohibiting non-State actors to manufacture, acquire, posses, develop, transport, transfer or use (among others) NWs, in particular, for terrorist purposes & establish domestic controls to prevent NW proliferation
- Implement “appropriate effective”: accountancy & control & PP measures; border controls & law enforcement measures to detect, deter, prevent & combat illicit trafficking; & import & export control measures

**Key Points:**

WMD: nuclear, chemical & biological weapons

Nuclear Weapons (NWs), means of delivery & related materials


Focuses on prevention/detection element of NS
### 2005 SUA Protocol to the 1988 SUA Maritime Convention

**Status:** 41 States Parties  
**Salient Provisions:**  
- Unlawful acts against safety of maritime navigation  
- Ships as targets for terrorist & as a means to carry-out terrorist activities incl. unlawful transports (proliferation offences)  
- **Criminalisation:**  
  - against, on, discharge from RM, NW, NED ... to intimidate  
  - transport - RM ... to intimidate ...; NW, NED, source material, SFM or specially designed equipment or prepared & material
  
**Key Points:**  
- Primarily focuses on the criminal justice aspects of countering terrorism  
- BCN (biological, chemical & nuclear (i.e. NWs & NEDs)  

### 2005 SUA Protocol to the 1988 SUA Fixed Platform Protocol

**Status:** 35 States Parties  
**Salient Provisions:**  
- Unlawful acts against or on fixed platforms on the continental shelf  
- Platforms as targets for terrorist & as a means to carry-out terrorist activities
  
**Key Points:**  
- Primarily focuses on the criminal justice aspects of countering terrorism  
- BCN (biological, chemical & nuclear (i.e. NWs & NEDs)  
- Post 9/11 strengthening & updating of the 1998 instrument  
- Essentially applies to fixed platforms the changes in the 2005 SUA Maritime Protocol (except for transport)
Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation (Beijing Convention)

Key Points:
- Unlawful acts against international civil aviation
- First international legal instrument dealing with the prevention & suppression of aviation-related CBRN terrorism
- Primarily focuses on the criminal justice aspects of countering terrorism
- Criminalizes a number of acts constituting new & emerging threats – aircrafts as targets for terrorist & as a means to carry-out terrorist activities

Salient Provisions:
- Using a NW or RM against or on board
- Discharging a NW or RM from an aircraft
- Unlawfully transporting NM or RM

Scenario 1:
An act of Illicit Trafficking
• Of paramount importance is the need to plan for a coordinated response to a nuclear security event

• Development of a national framework for managing the response is an important step in this planning process

• Need for a comprehensive national response plan for nuclear security events in combination with, inter alia, the national radiological emergency plan

• Clearly defined responding agency roles & responsibilities, single- & multi-agency response plans & procedures, effective multi-agency command & control arrangements & national coordination into the national framework

• Vehicle containing RM has been stolen

• Credible sensitive info. that a national of a neighbouring country, stole the truck & plans to move it & utilize the material as a ‘dirty bomb’

• Whereabouts of the alleged offender & the truck are unknown

• Assume concerned States are parties to the CPPNM & UN Nuclear Terrorism Convention
SCENARIO 1: seizure, return

- **Source**
  - NM or other RM such as a radioactive source Device (NW, IND, RRD (dirty bomb))

- **Actors**

- **Int’l coop. aspects**
  - Assistance from other States Parties
  - Seizure, return, recovery
  - Int’l EPR framework

- **Criminal justice aspects**: General, specific intent
Inform, info. exchange (ACPPNM)

• Take appropriate steps to inform as soon as possible other States, which appear to it to be concerned, of any theft, robbery or other unlawful taking of NM or credible threat thereof, & to inform, where appropriate, the IAEA and other relevant IGOs (art. 5(a))

• Exchange info. with each other, the IAEA & other relevant IGOs with a view to protecting threatened NM, verifying the integrity of the shipping container or recovering unlawfully taken NM (art. 5(b))

• Coordinate efforts through diplomatic/agreed channels (Articles 5(2)(b) and (3)(d))

• Obliged to take appropriate steps to protect confidentiality of info. received in confidence (art. 6(1))

Assistance (ACPPN)

• May request other State Parties to provide coop. & render assistance in protection of the NM, i.e. exchange info. & coordinate their efforts through diplomatic/agreed channels (Art. 5(2), ACPPNM)

• Neighbouring State Party obliged to provide coop. & render assistance in protection of the NM if so requested, i.e. exchange info. & coordinate its efforts through diplomatic/agreed channels (art. 5(2), ACPPNM)
**IAEA Incident and Trafficking Database (ITDB)**

**Broad Scope:** All types of material & incidents in which NM & other RM are out of regulatory control.

**Year 2016**
- **189** reported incidents
- **TOTAL:** **3068**
  - **270** incidents: trafficking / malicious intent
    - Pu beryllium neutron sources (4), Pu (2), HEU (12)
  - **904** incidents
  - **1894** incidents
  - **Group I:** no malicious intent
  - **Group II:** undetermined intent (insufficient info.)

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**SCENARIO 1**

Criminal justice aspects

**AWAITING NEWS CONFERENCE**

**POLICE: 34 YEAR OLD MAN IN CUSTODY – ONGOING INVESTIGATION**

Fake News
Trafficking: Criminal Justice Aspects

State A: National of B
State B: National of C
[ NM, other RM ]
State C: Mastermind

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Source</th>
<th>Objective Element</th>
<th>Subjective Element</th>
<th>Ancillary</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPPNM</td>
<td>NM</td>
<td>Receipt, possession, use, transfer, alteration, disposal or dispossession</td>
<td>Intentional and unlawful, which causes, or is likely to cause</td>
<td>---</td>
<td>Attempt, Participation, Death, Serious injury, Substantial property damage</td>
</tr>
<tr>
<td>ACP/PPNM (as above plus)</td>
<td>NM</td>
<td>Carrying, sending or moving nuclear materials without lawful authority</td>
<td>Intentional and unlawful</td>
<td>---</td>
<td>AND Organization, Contribution, AND Substantial damage to the environment</td>
</tr>
<tr>
<td>Nuclear Terrorism Convention</td>
<td>RM, Device</td>
<td>Possession</td>
<td>Intentional and unlawful with the intent to cause death or serious bodily injury or substantial damage to property or to the environment</td>
<td>As Above</td>
<td>As Above</td>
</tr>
</tbody>
</table>

Note also the provisions of IMO 2005 SUA Maritime Convention & the ICAO 2010 Beijing Convention, as well as UNSCR 1540 (2004)
Part 4
Scenario 2:
An act of ‘Nuclear Terrorism’
• **State A:** Ostensible target of a credible threat of nuclear terrorism

• **State B:** Neighbouring State - national involved in the threat

---

**Credible threat of sabotage of NM/NF**

**Inform, assistance**

• Neighbouring State obliged to decide on appropriate steps to be taken to inform State A as soon as possible of credible threat of sabotage of NM/NF with a view to preventing it. Where appropriate, the IAEA (as a relevant IGOs) should also be informed (art. 5(3)(a), ACPPNM).

• If State A then requests assistance, neighbouring State is obliged to promptly decide & notify State A (directly or through the IAEA) whether it is in a position to render the assistance requested & the scope/terms of such assistance.

• Obligated to exchange information & coordinate efforts through diplomatic/agreed channels (Articles 5(2)(b) and (3)(d))
• Source
  - NM or other RM such as a radioactive source
  - Device (NW, IND, RRD (dirty bomb))

• Int’l coop. aspects
  - Assistance from other States
  - International EPR framework - activation
Inform, assistance (art. 5, ACPPNM)

• State A is obliged to inform as soon as possible other States which are likely to be radiologically affected & inform, where appropriate, the IAEA & other relevant IGOs, with a view to minimizing or mitigating the radiological consequences thereof.

• If State A then requests assistance, Neigbouring State is obliged to promptly decide & notify State A (directly or through IAEA) whether it is in a position to render the assistance requested & the scope/terms of such assistance.

• Obliged to exchange information & coordinate efforts through diplomatic/agreed channels.

ARRESTS MADE FOLLOWING ATTACK

07:20 OFFICIAL: This was a sophisticated attack
Criminal justice aspects

- **offence**
  - sabotage, damage, use, dispersal
  - general, specific intent

- **prosecute/ extradite**

- **penalties**

- **jurisdiction**

- **mutual legal assistance**

ACPPNM & UN Nuclear Terrorism Conv.

- **ACPPNM**: Intentional commission of an act without lawful authority which constitutes dispersal of NM which causes or is likely to cause death or serious injury to any person or substantial damage to property or the environment (art. 7, ACPPNM)

- **UN Nuclear Terrorism Conv.**: Unlawful & intentional use of RM or a device, or uses or damages a NF in a manner which releases or risks the release of RM: i. With the intent to cause death or serious bodily injury; or ii. With the intent to cause substantial damage to property or to the environment; or iii. With the intent to compel a natural or legal person, an IGO or a State to do or refrain from doing an act. (art.2, UN Nuclear Terrorism Conv.)

- Punishable offences by **appropriate penalties** which take into account their grave nature

- Need for legislation to detain and subsequently **prosecute or extradite**
- **Need for assistance** - supply of evidence relating to alleged offender(s)
  involvement in these offences

  - States Parties are obliged to afford one another assistance in connection with criminal proceedings, including supply of evidence at their disposal (art. 13, ACPPNM)

  - In the absence of an extradition treaty, the amended Convention may provide the legal basis for **extradition** (art. 11(a), ACPPNM)

  - Similar provisions in the UN Nuclear Terrorism Conv.

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**Post Scenarios:**  
National Nuclear Security Regime
ADDRESS TO THE NATION: POST EVENTS

“We need to protect persons, property, society, and the environment from the harmful consequences of any potential 'nuclear security event'.

To achieve this objective, we shall establish, implement, maintain and sustain an effective and appropriate national nuclear security regime to prevent, detect and respond to any such event.

In line with the legitimate expectations of the international community, we shall adhere to and effectively implement the primary international legal instruments on nuclear security, commit to others and follow international standards, guidance and best practices.”

Scenarios 1 & 2:

National Nuclear Security Regime

Comprised of:

1. Legislative & regulatory framework

2. Administrative systems & measures

3. Institutions & organisations responsible for ensuring the implementation of the above

4. Nuclear security systems & measures for the Prevention of, Detection of and Response to ‘nuclear security events’
Need addressing: [legislative & regulatory framework provides the basis]

National Implementation

Law

**Basic Concepts**: incl. responsibilities, regulatory body - establishment, authority, independence, functions (e.g. licensing, inspection & enforcement), other competent authorities & orgs.

**Substantive NS Elements**: incl. PP, NM, RSs, NFs, activities, import/ export controls, accountancy

**Criminalisation aspects etc**: incl. offences, penalties, jurisdiction

**International Coop.**: incl. points of contact, EPR, MLA
**Int’l obligations & commitments**: fulfil obligations, adhere to & effectively implement the primary nuclear security instruments, commitments

**Responsibilities**: clearly identify legal status, authority & define responsibilities of all competent authorities incl. regulatory body & responsibilities of all authorized persons (prime resp.) & other orgs. with nuclear security responsibilities re.;
- PP of NM & other RM; associated activities and facilities
- Detection and response to nuclear & other radioactive MORC
- Coordination mechanisms

**Confidentiality of information & trustworthiness**: requirements for protecting the confidentiality of information & measures for that received from other States or IGOs where a request for confidentiality has been made; & requirements for ensuring the trustworthiness of personnel

**Accounting & control**: state system of accounting & control (SSAC) for NM & national registry of radioactive sources

---

**National threat assessment & design basis threat (DBT)**

- Identify & assess all credible threats – adversaries with assessed motivations, intention & capabilities
- Threat assessment used in developing the adversary attributes/characteristics for the DBT

<table>
<thead>
<tr>
<th>DBT</th>
<th>Adversaries</th>
<th>Consequences</th>
<th>Characteristics</th>
<th>Evaluation</th>
</tr>
</thead>
</table>

DBT should be developed, used & continuously reviewed for unauthorised removal of Cat. I NM, sabotage of NM & NFs that has potentially high radiological consequences

- Overall responsibility for development, use & maintenance rests with the State, possibly residing within a single authority or divided among several
- No. of orgs. and operators have specified responsibilities re. DBT design and impl.
Import & export controls

[Note also Nuclear Supplier Guidelines (NSG)]

**NM**
- Import, export assurances of PP (at defined Levels) of defined categories of NM as conditions for int’l nuclear transports (art. 4)
- Implement “appropriate effective” import & export control measures
- Prior evaluation and consent only when recipient authorised and there exists an appropriate technical and administrative capability, resources and regulatory structure; and notification

**Rad. sources**
- Prior evaluation and consent only when recipient authorised and there exists an appropriate technical and administrative capability, resources and regulatory structure; and notification

**Physical protection**: requirements, including licensing procedures, to ensure a high level of protection of NM & associated facilities from theft, unauthorised use or diversion of materials & against sabotage of related facilities

**Illicit trafficking**: effective measures, including border controls, export & import & trans-shipment controls & enforcement measures, to detect, deter, prevent & combat illicit trafficking in NM & related equipment & technology & other RM

**National response system**

**Int’l cooperation & assistance**: at the request of another State in recovering or ensuring the safety & security of NM or other RM that has been unlawfully taken or appropriated or that may otherwise pose risks of a radiological emergency

**Criminal justice aspects**
Some key tools to facilitate implementation of obligations/commitments in establishing the regime:

- No. 20 (2013)
- No. 14 (2011)
- No. 15 (2011)

IAEA Safety Standards Series
- GSR Part 1 Rev.1 (2016)
- GSR Part 7 (2015)

Scenarios 1 & 2: ADDITIONAL ADDRESS TO THE NATION:
POST EVENTS

"[...] Further, in establishing an effective & appropriate 'national nuclear security regime' we shall benefit from IAEA and other international assistance and cooperation. We also intend to support some of the international initiatives on nuclear security. [...]"

From where does the IAEA’s nuclear security mandate derive?

Policymaking Organs
- Board of Governors
- General Conference

Statute
- No explicit reference to nuclear security in the Statute.
- Mandate & activities inherent in the mandate to contribute to peace, health & prosperity throughout the world, as derived from Art. II & confirmed by the policy-making organs

Int’l Instruments
- Nuclear Security Fundamentals, Recommendations (INFCIRC/225)
- Functions eg. CPPNM Amendment
- Recognised Role eg. ICSANT
- Party eg. PSA
- Depositary eg. CPPNM Amendment

What type of IAEA nuclear security activities may be relevant for us?

Activities are implemented under a Plan of Action approved by the IAEA policy-making organs (Board of Governors & General Conference).


Facilitating Adherence & Implementation: Int'l Legal Instruments - legislative assistance: Office of Legal Affairs (OLA)

Risk Reduction - facilitating recovery & securing of materials


Radiological Crime Scene Management & Nuclear Forensic Science

Carrying Out on-request Peer Reviews & Advisory Services e.g. IPPAS, INSServ, IRRS

Facilitating Info. Sharing - via Designated Points of Contact incl. through secured electronic access to info. in the Incident and Trafficking Database (ITDB)

Capacity Building, Education & Training

What are some of the post 9/11 nuclear security initiatives we could consider?

Nuclear Security Summits (NSS)

- 1st NSS (Washington) 2001
- 2nd NSS (The Hague) 2002
- 3rd NSS (Seoul) 2004
- 4th NSS (Washington) 2005
- 5th NSS (Washington) 2016

Non-binding communiqués: gift baskets, joint & national statements, progress reports

UNGTS (UN Global Counter-Terrorism Strategy) (A/RES/60/288) Establishes the Counter Terrorism Implementation Task Force to coordinate & strengthen efforts in the UN system

Global Partnership (G8 Global Partnership Against the Spread of Weapons of Mass Destruction)

PSI (Proliferation Security Initiative) (EU strategy against proliferation of Weapons of Mass Destruction)

GICNT (Global Initiative to Combat Nuclear Terrorism)

WINs (World Institute of Nuclear Security)

NTI (Nuclear Threat Initiative)

GTRI (Global Threat Reduction Initiative)

PSI (Proliferation Security Initiative)

EU WMD Strategy

NUIGS (Nuclear Industry Steering Group for Security)
### Aspects to consider of the Int’l Legal Frameworks

<table>
<thead>
<tr>
<th>Role of the IAEA</th>
<th>Nuclear Security</th>
<th>Nuclear Safety</th>
<th>Safeguards/ non-proliferation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant ‘central’ (BUT advisory, on request)</td>
<td>“watchdog” (Statute &amp; NPT)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IAEA mandatory reviews</td>
<td>Non-mandatory (BUT de facto [?])</td>
<td>Mandatory SGs inspections</td>
<td></td>
</tr>
<tr>
<td>IAEA binding technical standards</td>
<td>Non-binding (BUT quasi [?].225 but others) art. III A.6, IAEA Statute</td>
<td>Non-binding guidance</td>
<td></td>
</tr>
</tbody>
</table>

**Review by others, such as States**
- Rad. sources code
- Art 16 ACPPNM - 2021 conf. [?]
- Art. 14 ACPPNM (laws & regs.)
- UNSCR 1540 (2001)

**CNS/Joint Conv. peer review process**
- Rad. sources code

**Reporting on national impl.**
- eg. NPT Review Conf. (may also touch on nuclear security)

**Compliance & enforcement mechanisms**
- No (BUT IAEA services, common aim to achieve high levels, reviews, reporting)
- Yes (IAEA Board of Governors, UNSC)

---

### How can we further demonstrate our commitment as a responsible & cooperative country to achieving high-levels of nuclear security & combating terrorism?

**National reports:** submitting comprehensive UNSCR 1540 (2001) implementation reports (mandatory) & developing an action plan (voluntary)

**Political commitments:** making (voluntarily) commitments to the Code of Conduct & its supplementary guidance (import/ export & disused sources) & regularly & actively participating in the non-mandatory review process in a transparent manner

**IAEA INSSP:** (voluntarily) concluding an Integrated Nuclear Security Support Plan (to address Legislative & Regulatory Framework, Prevention, Detection, Response, & Sustainability)

**IAEA legislative & other assistance:** (voluntarily) seeking IAEA assistance when drafting our nuclear law & technical assistance on our regulations, as well as assistance from UNODC regarding additional criminal justice aspects

**IAEA nuclear security series guidance:** (voluntarily) utilizing the fundamentals, requirements & guidance

**ACPPNM:**
- submitting & keeping up-to-date information to the IAEA Director General (as Depositary) on our implementing laws & regulations in accordance with art. 14
- actively participating in (points of contact) meetings & contributing to the efforts leading to the 2021 review conference & its successful outcome
contd.

IAEA ITDB: (voluntarily) joining & actively participating in the Incident & Trafficking Database

Points of contact: nominating (& keeping up-to-date) for the ACPPNM, UN Nuclear Terrorism Convention, Early Notification & Assistance Conventions, Code of Conduct/guidance, ITDB

IAEA services & missions: (voluntarily) hosting (& follow-ups): IPPAS (International Physical Protection Advisory Service) & INSServ (International Nuclear Security Advisory Service), as well as EPREV (Emergency Preparedness Review) & IRRS (Integrated Regulatory Review Service), as well as making available the findings thereof (subject to confidentiality constraints

IAEA ministerial conferences on nuclear security: (voluntarily) participating in the conferences (next one in 2019) & other int’l activities aimed at fruitful exchanges of experience, knowledge & good practices (e.g. IAEA Int’l Conference on the Security of Radioactive Material: The Way Forward for Prevention and Detection, 3-7 Dec. 2018)

Exercises/drills: regularly organizing exercises to strengthen national capacities to prepare & respond to a nuclear security event, as well as participating in int’l & regional ones (e.g. ConvEx exercises, GICNT workshops)

IAEA NUSIMS: (voluntarily) utilising the Nuclear Security Information Management System

IAEA INFCIRC/869: consider making a (voluntarily) commitment to the initiative in IAEA INFCIRC/869 of 2014 (‘Strengthening Nuclear Security Implementation’) which currently has the support of 38 States

any additional thoughts?

Part 6: Take Away Messages & Concluding Thoughts
Nuclear terrorist threat:
recognised real threat to int’l peace & security -
global threat requiring a global response

Post 9/11:
Global nuclear security regime significantly reinforced post 9/11

IAEA guidance & services:
int'l legal framework underpinned by IAEA Nuclear Security Series suite of guidance & IAEA services

Counter-terrorism:
7 instruments comprise the broader ‘Universal Legal Framework Against Terrorism’ of 19 instruments

Role of the IAEA:
since the mid-00s, widely accepted & recognized important & ‘central role’

Initiatives:
multiplicity of initiatives (GICNT, GTRI etc) - high-level Nuclear Security Summit process ended in 2016

Global framework:
as in nuclear safety, global framework clearly defines the responsibility of the State for nuclear security

National regimes:
harmonized national regimes can contribute to more effective nuclear security at the int’l level

TAKE AWAY MESSAGES:
Global Nuclear Security Regime

Concluding Thoughts:
Global Nuclear Security Regime

Positive & progressive developments in the absence of a nuclear security ‘watershed’ event

Shaped by State’s efforts to combat the evolving threat & supported by IGOs, in particular the UN & IAEA, as well as various initiatives & other bodies

Yet, continued calls in different fora (e.g. NTI, NSGEG, Belfer Center) for a more comprehensive, transparent, robust & sustainable global nuclear security framework addressing & providing for,

• non-civilian materials [85% of global weapons-useable NM is categorized as being in military or non-civilian use]
• ‘oversight’ role of the IAEA in nuclear security (monitoring & enforcement)
• ‘binding’ IAEA nuclear security (specific) standards
• ‘mandatory’ IAEA & treaty-based nuclear security peer reviews
• comprehensive, transparent & sustained reporting on nuclear security national implementation

What is needed to change the mind-set to address these issues, if that is what is indeed required?
Concluding Thoughts contd.

Yet, with that question in mind it is recalled that there are increasing levels of int’l coop., info. exchange & assistance. Also, the ‘real’ world appears not yet ready for the ‘ideal’ world i.e. security verification for ALL to check

With the end of the high-level Nuclear Security Summit process in 2016,

• Focus on the role of the IAEA (incl. funding) & IAEA ministerial conferences (next in 2019)
• Implementation of NSS Action Plans & NSS Contact Group
• Within the framework of INSPPs, promote universalisation & effective implementation of all the international instruments & guidance, in particular, the ACPPNM
• Planning for the ACPPNM 2021 review conference (art. 16) laying the foundation for subsequent conferences
• Promoting effective implementation & inclusiveness of the INFCIRC/869 initiative
• Strengthening/developing other assurance & confidence building measures
• Promoting information sharing incl. submission of info. on laws & regulations implementing the ACPPNM (art. 14)
• Strengthening & increasing usage of IAEA services, particularly, the IPPAS/ INSServ etc. & transparency thereof while protecting confidentiality
• Strengthening integration of NS event reporting, info. exchange and assistance in the IAEA EPR system (need for confidentiality)

Thank you for your attention!

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UNIVERSAL LEGAL FRAMEWORK AGAINST TERRORISM

1. 1963 Convention on Offences and Certain Other Acts Committed On Board Aircraft (Aircraft Convention)
3. 1971 Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation (Civil Aviation Convention)
5. 1979 International Convention against the Taking of Hostages (Hostages Convention)
6. 1980 Convention on the Physical Protection of Nuclear Material (CPPNM)
11. 1997 International Convention for the Suppression of Terrorist Bombings (Terrorist Bombing Convention)
12. 1999 International Convention for the Suppression of the Financing of Terrorism (Terrorist Financing Convention)
13. 2005 Amendment to the Convention on the Physical Protection of Nuclear Material (ACPPNM)
18. 2010 Protocol Supplementary to the Convention for the Suppression of Unlawful Seizure of Aircraft (Protocol to Unlawful Seizure Convention)
CPPNM: DEFINITIONS

“For the purposes of the CPPNM:

“nuclear material” means plutonium except that with isotopic concentration exceeding 80% in plutonium-238; uranium-233; uranium enriched in the isotope 235 or 233; uranium containing the mixture of isotopes as occurring in nature other than in the form of ore or ore-residue; any material containing one or more of the foregoing;

“uranium enriched in the isotope 235 or 233” means uranium containing the isotope 235 or 233 or both in an amount such that the abundance ratio of the sum of these isotopes to the isotope 238 is greater than the ratio of the isotope 235 to the isotope 238 occurring in nature;..”

“international nuclear transport” means the carriage of a consignment of nuclear material by any means of transportation intended to go beyond the territory of the State where the shipment originates beginning with the departure from a facility of the shipper in that State and ending with the arrival at a facility of the receiver within the State of ultimate destination.
CPPNM AMENDMENT

- A Party shall in implementing this “core” undertaking, inter alia:
  - establish an appropriate legislative and regulatory framework;
  - establish or designate an authority(ies) for its implementation;
  - take other administrative measures necessary for PP of NM/ NFs. (Art.2A.2(a)-(c))

- A Party shall in implementing these obligations apply, *insofar as is reasonable and practicable*, 12 Fundamental Principles of PP of NM/ NFs. (Art. 2A.3)

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CPPNM AMENDMENT

NM not subject to the PP Regime

- A Party may reasonably decide that NM doesn’t need to be subject to the PP regime:
  - Taking into account: the nature of the NM; its quantity and relative attractiveness; potential radiological and other consequences associated with any unauthorised act directed against it; and current evaluation of the threat against it. (new Art. 2A.4(a))

- **BUT** still protection in accordance with prudent management practices. (Art. 2A.4(b))
Criminalization

**CPPNM**

- Criminalization of specified acts as offences e.g. intentional unlawful receipt, possession, theft or robbery (Art. 7)

**AMENDMENT**

- New core offences: smuggling/trafficking & ‘sabotage’ of NF (Art. 7.1(d),(e))
- New ancillary offences: contributing, organizing, directing (Art. 7.1(j),(k))
- Substantial damage to the environment (Art. 7.1(a),(e),(g),(i))

Criminalization

**CPPNM**

- Penalization (Art. 7.2)

**AMENDMENT**

- Jurisdiction (Art. 8); detention (Art. 9); prosecution/extradition (Art. 10 & 11); & fair treatment (Art. 12)
  - no change -

Int’l Coop.

### CPPNM

- Central Authority/ Point of Contact (PofC) (Art.5.1)
- Recovery/ protection of unlawfully taken NM (Art.5.2 – some changes i.e. IAEA)
- PP systems for NM during int’l transport (Art.5.3 / Art. 5.4)
- National PP systems (Art. 5.5)

### AMENDMENT

- PofC “matters within the extended scope” (Art.5.1)
- Sabotage of NM/ NFs (Art.5.3)
- "matters within the extended scope" (Art.5.1)

---

### CPPNM

- Measures taken for ensuring presence of an alleged offender (Art.9 – no change)
- Mutual legal assistance (Art. 13 – no change)
- Final outcome of criminal proceedings (Art. 14.2 – no change)
- Info. re. criminal proceedings (Art. 14.3)

### AMENDMENT

- Info. re. criminal proceedings: extension to include NFs (Art. 14.3)
### CPPNM AMENDMENT

<table>
<thead>
<tr>
<th>Confidential info. (Art. 6)</th>
<th>Confidential info: info. received in confidence needs consent for provision to 3rd parties (Art. 6 - change)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laws &amp; regulations (Art. 14.1 – no change)</td>
<td></td>
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<tr>
<td>Conference to review (Art. 16 – minor changes)</td>
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</tr>
</tbody>
</table>

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**Annex I of the CPPNM/ ACPNPM**

Levels of Physical Protection for nuclear material during international transport include:

**For Category III & III materials**, transportation shall take place under special precautions including prior arrangements among sender, receiver, & carrier, & prior agreement between natural or legal persons subject to the jurisdiction & regulation of exporting & importing States, specifying time, place & procedures for transferring transport responsibility;

**For Category I materials**, transportation shall take place under special precautions identified above for transportation of Category II & III materials, & in addition, under constant surveillance by escorts & under conditions which assure close communication with appropriate response forces;

For natural uranium other than in the form of ore or ore-residue, transportation for quantities exceeding 500 kilograms uranium shall include advance notification of shipment specifying mode of transport expected time of arrival & confirmation of receipt of shipment.
ANNEX II of the CPPNM/ ACPPNM

Establishes the categorization of NM based on which the levels of PP (in Annex I) to NM while in int’l transport or during storage incidental to such int’l transport should be applied:

**Category I**
- 2 kg or more Plutonium
- 5 kg or more HEU
- 2 kg or more U-233

**Category II**
- 500 grams to 2 kg Plutonium
- 1 to 5 kg HEU
- 10 kg or more LEU
- 500 g to 2 kg U-233
- Irradiated fuel (depleted uranium, natural uranium or LEU with fissile content of uranium less than 10%)

**Category III**
- 15 to 500 grams Plutonium
- 15 g to 1 kg HEU
- 1 to 10 kg LEU
- 10 kg or more Uranium up to 10% U-235

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**Objective of a State’s Nuclear Security Regime**

- Protect against harmful consequences of a nuclear security (NS) event. i.e. one that has potential or actual implications for nuclear security that must be addressed.

**Essential Elements of the Regime**

1. State Responsibility
2. Identification & Definition of Duties & Responsibilities
3. Legislative & Reg. Framework
4. Int’l Transport of NM & other RM
5. Offenses & Penalties incl. Criminalization
6. Int’l Coop. & Assistance
7. Identification & Assessment of NS Threats
8. Identification & Assessment of Targets & Consequences
9. Use of Risk-Informed Approaches
10. Detection of NS Events
11. Planning/Preparedness/Response to a NS Event
12. Sustaining a NS Regime

---

**Physical Protection Objectives**

1. Protect against theft
2. Protect against sabotage
3. Locate & recover stolen material
4. Mitigate radiological consequences of sabotage

**Fundamental Principles of Physical Protection**

A. State Responsibility
B. Responsibilities During Transport
C. Legislative & Reg. Framework
D. Competent Authority
E. Responsibility of License Holder
F. Security Culture
G. Consideration of Threat
H. Graded Approach
I. Defense in Depth
J. Quality Assurance
K. Contingency Plans
L. Confidentiality
Responsibilities for Nuclear Security within a State:

**Examples**

- **The executive authority at governmental level**, typically has responsibilities for:
  - national security, including nuclear security,
  - develops national policy in relation to nuclear security, including the State’s response to the threat of nuclear terrorism,

- **The ministry of foreign affairs** typically is responsible for:
  - developing and carrying out the State's foreign policies,
  - negotiation and fulfilment of the State's treaty obligations, exchanges assurances with other States in relation to international agreements pertaining to nuclear security
  - licensing of certain nuclear related exports and imports.

- **The ministry of defence or the ministry of the interior** may have responsibility for response to nuclear security events.

- **A ministry of energy or ministry of industry** is typically responsible for the promotion and development of energy technologies, including nuclear energy. In addition, the ministry of energy may also be an owner of facilities within the State and therefore have responsibility for the protection of nuclear material and nuclear facilities.

- **The ministry of justice** is typically responsible for prosecuting violations of national laws and regulations. The ministry of justice in some cases, responsible for the development and implementation of legislation, and for the representation of government entities in legal proceedings.

- **Intelligence agencies** - typically responsible for the collection, evaluation and appropriate communication of information that could have security implications and could inform the development of a national threat assessment.

- **Interior or home affairs authorities** – typically responsible for activities inside the State that may have national security implications, including the development and implementation of legislation related to the protection of sensitive information.

Source: IAEA

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**Responsibilities for Nuclear Security within a State:**

**Examples contd.**

- **Border protection authorities** - typically responsible for monitoring of and enforcing laws related to the movement of persons and/or conveyances across national borders (points of entry and exit).

- **Transport authorities** - typically responsible for regulation of air, sea and land transport, including the approval process for the transport of dangerous goods.

- **Customs authorities** - typically responsible for regulating the import and export of controlled items and technology, which may include responsibilities for screening and the deployment of detection capabilities including in the context of combating illicit trafficking in nuclear and other radioactive material.

- **Police and other law enforcement agencies** - typically responsible for dealing with criminal activities within the State or involving nationals of the State, including investigations, crime scene management and forensic analytical capability.

- **Public affairs or communications offices** - typically part of each ministry and of any other competent authority and may be responsible for public communication strategies, including communication related to security information.

- **Civil defence and emergency response organizations (fire, ambulance and rescue services)** - typically under the control of regional and/or local government and are called upon to provide assistance in cases of injury to persons and damage to property, including those arising from a nuclear security event.

- **Authorized person** - typically responsible for nuclear security measures in the context of specific licensed activities.

- **Consignors and carriers** - typically responsible for security measures during the transport of nuclear and other radioactive material.

Source: IAEA
IAEA’s acknowledged central & leading roles

Strengthening the int’l framework

Leading, facilitating & coordinating int’l coop.

Supporting States in fulfilling their responsibilities

Some limited examples:

- Facilitating adherence & implementation

- incl. info. exchange meetings among various int’l institutions & initiatives with nuclear security mandates
  (17th meeting, 2017)

- Carrying out on-request: Peer reviews & advisory services
  eg. IPPAS, INSServ

Source: IAEA