

International Legal Framework for Nuclear Security

George M. Moore
Mombasa, Kenya
7-10 July 2008



International Legal Framework for Nuclear Security

- Agency's Legal Framework
 - Statute of the IAEA
 - Agreement on the Privileges and Immunities of the IAEA
 - Relevant resolutions of the Board of Governors and the General Conference of the IAEA



International Legal Framework for Nuclear Security

- What is "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



International Legal Framework for Nuclear Security

- Responsibility for nuclear security rests entirely with each State
- There is no single international instrument that addresses nuclear security in a comprehensive manner
- The legal foundation for nuclear security comprises international instruments and recognized principles that are implemented by national authorities
- Security systems at the national level will contribute to a strengthened and more universal system of nuclear security at the international level



IAEA Security related instruments (BINDING)

- Convention on the Physical Protection of Nuclear Material and the 2005 Amendment thereto
- Safeguards Agreements between the Agency and States Required in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons
- Model Protocol Additional to Agreement(s) between State(s) and the Agency for the Application of Safeguards
- Convention on Early Notification of a Nuclear Accident
- Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency
- Convention on Nuclear Safety
- Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management



IAEA Security related instruments (non-binding)

- Code of Conduct on the Safety and Security of Radioactive Sources (INFCIRC/663)
- Guidance on the Import and Export of Radioactive Sources (INFCIRC/663)
- The Physical Protection of Nuclear Material and Nuclear Facilities (INFCIRC/225/Rev.4)
- Physical Protection Objectives and Fundamental Principles (GC(45)/INF/14)
- Code of Conduct on the Safety of Research Reactors (GOV/2004/4 and Corr.1)



IAEA Security related instruments (non-binding) (cont'd)

- International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources (Safety Series No. 115)
- Regulations for the Safe Transport of Radioactive Material – 2005 Edition (Safety Series No. TS-R-1)
- Legal and Governmental Infrastructure for Nuclear, Radiation, Radioactive Waste and Transport Safety—Requirements (Safety Standards Series (No. GS-R-1)
- Safety Requirements on Preparedness and Response to a Nuclear or Radiological Emergency (Safety Standards Series No. GS-R-2)
- Emergency Notification and Assistance Technical Operations Manual (ENATOM); Joint Radiation Emergency Management Plan of the International Organizations (JPLAN); IAEA Response Assistance Network (RANET 2006)
- TECDOC Series
- Handbook on Nuclear Law



Other international and regional instruments (BINDING)

International Conventions

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



Convention on the Physical Protection of Nuclear Material (INFCIRC/274/Rev. 1)

- In force since 8 February 1987
- 134 Parties (as of March 2008)
- The CPPNM has a threefold scope of application: the physical protection of nuclear material during international transport; the criminalisation of offences; and international co-operation and information exchange
- While the whole of the CPPNM applies to nuclear material used for peaceful purposes while in international nuclear transport (Article 2.1), all but three of its provisions (Articles 3, 4 and 5.3) apply also to nuclear material used for peaceful purposes while in domestic use, storage and transport (Article 2.2)



Convention on the Physical Protection of Nuclear Material (INFCIRC/274/Rev. 1)

- Under the provisions that apply only to nuclear material used for peaceful purposes while in international nuclear transport, States Parties are required:
 - to ensure that, during international transport, nuclear material is protected at the levels described in Annex I as applicable to the categories of nuclear material set out in Annex II (Article 3);
 - not to export or import, or authorize the export or import of, nuclear material unless assurances have been received that the nuclear material will, during international transport and storage incidental to such transport, be protected at the levels described in Annex I (Article 4); and
 - to co-operate and consult with a view to obtaining guidance on the design, maintenance and improvement of systems of physical protection of nuclear material in international transport (Article 5.3).



Convention on the Physical Protection of Nuclear Material (INFCIRC/274/Rev. 1)

The remaining provisions of the CPPNM apply both to nuclear material used for peaceful purposes while in international transport and to nuclear material used for peaceful purposes while in domestic use, storage and transport (Article 2.2). Those provisions relate to:

- co-operation and assistance in the event of theft, robbery or any other unlawful taking of nuclear material or of credible threat thereof with a view, among other things, to the recovery of unlawfully taken nuclear material (Article 5.1 and 2);
- protection of the confidentiality of information (Article 6);
- making specified acts involving nuclear material punishable offences under national law and the establishment of jurisdiction over such offences (Articles 7 & 8) (e.g., theft, embezzlement or threat to use nuclear material to cause death/serious injury to any person or substantial property damage); and
- the prosecution or extradition of alleged offenders and the provision of assistance by States Parties in connection with criminal proceedings relating to such offences (including the supply of evidence necessary for the proceedings) (Articles 9-14).



Amendment to the CPPNM

- In July 2005, an Amendment to the CPPNM was adopted
- It will enter into force once it has been ratified by two-thirds of the States Parties to the CPPNM.
- The Amendment extends the scope of the CPPNM to nuclear facilities and material in peaceful domestic use, storage as well as transport. It will also provide for expanded co-operation between and among States regarding rapid measures to locate and recover stolen or smuggled nuclear material, mitigate any radiological consequences of sabotage, and prevent and combat related offences
- It specifically covers, among other things:
 - the addition of definitions of "nuclear facility" and "sabotage" (new Article 1(d) and (e))
 - the establishment of new offences relating to nuclear smuggling/illicit trafficking (new Article 7.1(d) and to sabotage (new Article 7.1(e))
- As of March 2008, 15 States Parties to the CPPNM have adhered to the Amendment. It will enter into force once adhered to by two thirds of the States Parties to the CPPNM



Convention on Early Notification of a Nuclear Accident (1986) (INFCIRC/335)

- In force since 27 October 1986
- 102 States Parties (as of March 2008)
- Applies in the event of any accident involving specified facilities or activities of a State Party (or of persons or legal entities under its jurisdiction or control) from which a release of radioactive material occurs or is likely to occur and which has resulted or may result in an international transboundary release that could be of radiological safety significance to another State (Article 1.1)
- Contributes to the enhancement of the response to an act of "terrorism" by providing a mechanism for rapid information exchange



Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (1986) (INFCIRC/336)

- In force since 26 February 1987
- 100 States Parties (as of March 2008)
- States Parties are to co-operate between themselves and with the IAEA (in accordance with the Convention) to facilitate prompt assistance in the event of a nuclear accident or radiological emergency to minimize its consequences and to protect life, property and the environment from the effects of radioactive releases
- The Convention contributes to the enhancement of the response to a relevant terrorist act with a view to minimizing its consequences and protecting against the effects of radioactive releases



Convention on Nuclear Safety (CNS) (1994) (INFCIRC/449)

- In force since 24 October 1996
- 61 States Parties (as of March 2008)
- Parties are required to take, within the framework of their national law, the legislative, regulatory and administrative measures and other steps necessary to implement their obligations under the Convention (Article 4)
- Of particular relevance are the requirements that each Party:
 - ensure that on-site and off-site emergency plans are in place, are routinely tested and cover the activities to be carried out in the event of an emergency (Article 16)
 - take the appropriate steps to ensure that the design and construction of a nuclear installation provides for several reliable levels and methods of protection (defence in depth) against the release of radioactive materials, with a view to preventing the occurrence of accidents and to mitigating their radiological consequences should they occur (Article 18(i))



Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (1996) (INFCIRC/546)

- In force since 18 June 2001
- 46 States Parties (as of March 2008)
- The Joint Convention applies to the safety of spent fuel management and to the safety of radioactive waste management
- It has comparable objectives and requirements (including the establishment of a regulatory body, the design and construction of facilities, emergency preparedness) to the CNS



Structure and Content of Safeguards Agreements required in Connection with the NPT (1972) (INFCIRC/153, Corr.)

- Approved by the IAEA Board in 1972, this document provides the basis for negotiating comprehensive safeguards agreements (CSAs) between the Agency and NPT parties as required by Article III.1 of the Treaty
- Requires application of IAEA verification measures to all source or special fissionable material in all peaceful nuclear activities within a State's territory or under its jurisdiction or control
- A CSA contributes to the enhancement of protection against nuclear terrorism by requiring a State party thereto to establish and maintain a rigorous State system of accounting for and control of nuclear material (SSAC)
- However, for an SSAC to be effective, a State must have in place legislative and regulatory systems requiring and ensuring that nuclear material is accounted for whether in storage, use or transport (including import and export)



Model Protocol Additional to Agreements for the Application of Safeguards (1997) (INFCIRC/540, Corr.)

A number of enhancements to the CSA were established in the Model Additional Protocol, approved by the IAEA Board in 1997. Among the improvements are:

- the provision by the State of additional information with respect to all nuclear material and activities related to the nuclear fuel cycle
- "complementary access" for the Agency to locations additional to the locations to which the Agency has access under a CSA; and
- administrative improvements, including simplified inspector designation and long term, multiple entry visas

Conclusion of an Additional Protocol, in combination with a CSA, represents an important improvement in safeguards that can contribute significantly to nuclear security.



Conventions not under Agency auspices

The Treaty on the Non-proliferation of Nuclear Weapons (NPT)

In force since 5 March 1970, almost universal

Nuclear-Weapon States (NWSs)

- Not to provide nuclear weapons or nuclear explosive devices to NNWS (Art. I)

Non-Nuclear-Weapon States (NNWSs)

- Not to acquire nuclear weapons or other nuclear explosive devices (Art. II)
- Accept Agency safeguards on all nuclear material in the State (Art. III.1)
- Conclude CSA within 18 months (Art. III.4)

Rights and Obligations of All States Parties

- Inalienable right to develop research, production and use of nuclear energy for peaceful purposes (Art. IV.1)
- Obligations: Not to transfer nuclear material and special equipment to NNWSs except subject to IAEA safeguards (Art. III.2); to facilitate and participate in the fullest possible exchange of equipments, materials and scientific and technological information for peaceful uses (Art. IV.2); and pursue negotiations in good faith on cessation of arms race and on disarmament (Art. VI)



Regional Non-Proliferation and Nuclear Weapons Free Zone Treaties

- At present, the following regional treaties have been concluded:

- *The Tlatelolco Treaty* for Latin America (in force since 1968)
- *The Rarotonga Treaty* for the South Pacific (in force since 1986)
- *The Bangkok Treaty* for Southeast Asia (in force since 1997)
- *The Pelindaba Treaty* for Africa (opened for signature 1996, not yet in force)

States Parties undertake, inter alia, to use nuclear material and facilities exclusively for peaceful purposes and are required to accept the application of comprehensive IAEA safeguards to verify that undertaking



United Nations Conventions

- International Convention for the Suppression of Terrorist Bombings (UN General Assembly resolution 52/164, Annex) (1997)
- International Convention for the Suppression of the Financing of Terrorism (UN General Assembly resolution 54/109, Annex) (1999)
- International Convention for the Suppression of Acts of Nuclear Terrorism (UN General Assembly resolution 59/290) (2005)



International Convention for the Suppression of Acts of Nuclear Terrorism

- Adopted by the UNGA on 13 April 2005 (A/RES/59/290)
- Open for signature by all States from 14 September 2005 until 31 December 2006
- Entered into force on 7 July 2007
- Status: 34 States Parties (as of March 2008)



International Convention for the Suppression of Acts of Nuclear Terrorism

- Details offences relating to unlawful and intentional possession and use of radioactive material (which includes nuclear material) or a nuclear explosive device or radioactive material dispersal or radiation-emitting device, and use or damage of nuclear facilities
- States Parties are required to adopt measures as necessary to criminalize these offences
- States Parties are “to make every effort to adopt appropriate measures to ensure the protection of radioactive material, taking into account relevant recommendations and functions of the International Atomic Energy Agency” (Article 8)



United Nations Security Council Resolution 1373 (2001)

- Adopted under Chapter VII of the UN Charter and as such legally binding
- Prevention and suppression of terrorist financing
- Prevention and criminalization of terrorist acts
- International cooperation
The Security Council ... Notes with concern the close connection between international terrorism ... and illegal movement of nuclear... and other potentially deadly materials, and in this regards emphasizes the need to enhance coordination of efforts on national, subregional, regional and international levels in order to strengthen a global response to this serious challenge and threat to international security (op. 4)
- Establishes a Counter-Terrorism Committee



United Nations Security Council Resolution 1540 (2004)

- Adopted under Chapter VII of the UN Charter and as such legally binding
- Refers specifically to the CPPNM and to the IAEA Code of Conduct
- Deals with WMD and non-State actors, and obliges States to:
 - adopt and enforce appropriate effective laws which prohibit any non-State actor to manufacture, acquire, possess, develop, transport, transfer or use (among other things) nuclear weapons, in particular for terrorist purposes, and to establish domestic controls to prevent the proliferation of nuclear weapons
 - implement accountancy and control and physical protection measures; border controls; measures to detect, deter, prevent and combat illicit trafficking; and import and export control measures.
- Measures mirror the structure and activities of the IAEA's Nuclear Security Plan of Activities
- Explicitly states, inter alia, that none of its obligations shall be interpreted so as to conflict with or alter the rights and obligations of States Parties to the Treaty on the Non-Proliferation of Nuclear Weapons or alter the responsibilities of the Agency
- Establishes the 1540 Committee



Other relevant IAEA Recommendations and Guidelines

- The instruments described in this part were developed to provide guidance to assist States in implementing stringent measures of regulatory control over nuclear materials, other radioactive substances and facilities using those materials
- They are non-binding. However, they can assume a legally binding character where national law or a separate international agreement so provides



The Physical Protection of Nuclear Material and Nuclear Facilities (INFCIRC/225/Rev.4, Corr.)

- Intended to apply to the physical protection of nuclear material in use, storage and transport, whether domestic or international and whether peaceful or military (including protection of nuclear facilities and nuclear material against sabotage)



Physical Protection Objectives and Fundamental Principles (GC(45)/INF/14)

- Of the 12 Fundamental Principles, 11 address the prevention element of nuclear security and one (Fundamental Principle K – Contingency Plans) addresses the response element
- These Objectives and Fundamental Principles have been incorporated in the Amendment to the CPPNM



Code of Conduct on the Safety and Security of Radioactive Sources (GOV/2004/49-GC(47)/9) (2003)

- Status: 92 States have made a political commitment with regard to the Code (as of March 2008)
- "Orphan sources" can pose significant dangers to human health and safety. In the wrong hands they can also pose major security risks, enabling terrorist or criminal elements to develop so-called radiation dispersal devices (RDDs) or "dirty bombs"
- The Code's objectives are (through the development, harmonization and implementation of national policies, laws and regulations and through fostering international co-operation) to:
 - achieve a high level of safety and security;
 - prevent unauthorized access or damage to, and loss, theft or unauthorized transfer of, radioactive sources, so as to reduce the likelihood of, inter alia, the malicious use of such sources to cause harm to individuals, society or the environment; and
 - mitigate or minimize the radiological consequences of any accident or malicious act involving such a source.



Other relevant non-binding instruments

Guidance on the Import and Export of Radioactive Sources

- In March 2005, supplementary guidance on implementing the import/export control provisions of the Code was issued

Code of Conduct on the Safety of Research Reactors

- Adopted by the Agency's Board in March 2004, this Code mirrors the relevant provisions of the Convention on Nuclear Safety and thus, supports the prevention and response elements of nuclear security.

International Basic Safety Standards for Protection Against Ionizing Radiation and for the Safety of Radiation Sources (Safety Series No. 115)

- This long-standing guidance document contains recommendations for protection against exposure to ionising radiation and for the safety and security of radioactive sources. It contains recommendations that are relevant for both the prevention and response elements of nuclear security



Other relevant non-binding instruments

Regulations for the Safe Transport of Radioactive Material—1996 Edition (Revised) (Safety Series No. TS-R-1 (ST-1, Revised))

Legal and Governmental Infrastructure for Nuclear, Radiation, Radioactive Waste and Transport Safety—Requirements (Safety Standards Series (No. GS-R-1))

Safety Requirements on Preparedness and Response to a Nuclear or Radiological Emergency (Safety Standards series No. GS-R-2)

Emergency Notification and Assistance Technical Operations Manual (ENATOM); Joint Radiation Emergency Management Plan of the International Organizations (JPLAN); IAEA Response Assistance Network (RANET 2006)



Other Relevant Publications: the IAEA TECDOC Series

These technical documents reflect the best consensus of international experts on measures needed to address the subjects covered by each publication. Many States have used these TECDOCs as the basis for national legislation or regulations (physical protection, prevention, detection and response to illicit trafficking, security of radioactive sources...)



Handbook on Nuclear Law (2003)

- Contains a description of basic principles of nuclear law, the legislative process and regulatory arrangements for the control of nuclear and radioactive material, and activities related thereto.
- Individual chapters also deal with specific subjects, including:
 - radiation protection, nuclear and radiation safety (including: safety of nuclear facilities);
 - emergency preparedness and response;
 - transport of radioactive material;
 - radioactive waste and spent fuel; and
 - non-proliferation and physical protection (safeguards; import and export controls; and physical protection).

Part II of the Handbook, on implementing legislation, is being finalized.



Implementation of the Binding and Non-binding Instruments

There are 7 fundamental elements of national legislation relating to security

- Regulatory Authority
- Licensing
- Inspection
- Enforcement
- Criminalization
- International Cooperation
- Import/Export Controls



Implementation of the Binding and Non-binding Instruments

The Regulatory Authority

- Issues regulations and guidance
- Issues, amends, revokes authorizations
- Conducts inspections, visits and carry out complementary access
- Verifies compliance
- Grants exemptions
- Releases from regulatory control
- Provides access to information
- Maintains an SSAC
- Maintains a register
- Communicates with other domestic authorities
- Cooperates and communicates with international organizations



Implementation of the Binding and Non-binding Instruments

Licensing

- Prohibit the carrying out of any "activity" unless previously authorized by the Regulatory Authority
- Specify the activities requiring an authorization (licence/notification)
- Establish procedures for dealing with applications for authorizations
- Identify prime responsibility for the implementation of the security of nuclear material, facilities, radioactive sources
- Establish requirements for persons or organizations to provide information/support to the Regulatory Authority



Implementation of the Binding and Non-binding Instruments

Inspection

- Require any person performing regulated “activities”:
 - to grant access to duly authorized inspectors to all premises/facilities where activities are carried out with a view to:
 - Obtaining information
 - Verifying compliance
 - Investigating incidents
 - Interviewing relevant personnel
 - Inspecting equipment
 - Taking environmental samples
 - to grant access within prescribed time limits
 - to provide support to designated inspectors so that they can carry out the necessary activities to fulfil their duties



Implementation of the Binding and Non-binding Instruments

Enforcement

- Grant authority to the Regulatory Authority to enforce compliance with the requirements laid down by the legal framework (e.g. licence suspension/revocation; fines)
- Detail procedures for determining and exercising enforcement actions (e.g. powers to seize or detain, bar or restrict access)
- Prescribe criminal penalties in case of serious violations



Implementation of the Binding and Non-binding Instruments

Criminalization

As a separate matter, the State’s domestic legislation should:

- make certain acts punishable offences by appropriate penalties
- establish jurisdiction over such offences
- take appropriate measures, including detention, to ensure alleged offenders’ presence for prosecution and extradition



Implementation of the Binding and Non-binding Instruments

International Cooperation

National legislation should ensure that States:

- inform as soon as possible other States which appear to be concerned.
- exchange information with each other, the IAEA and other relevant international organizations
- co-ordinate efforts through diplomatic and other agreed channels
- render assistance if requested
- ensure the return of recovered material
- identify and make known to each other their point of contact for these matters.



Implementation of the Binding and Non-binding Instruments

Import/Export Controls: Key Elements

- a system of State supervision of transfers of specified materials, equipment and other items through authorization or licensing;
- verification measures to ensure that transferred commodities are not diverted from their authorized uses;
- measures to ensure that necessary information on the functioning of the export and import control system is available to stakeholders, including persons engaged in nuclear commerce;
- a listing of controlled materials, equipment and other items subject to control; and
- a system of enforcement for violations of export or import requirements.

Legislative drafters need to ensure that all relevant elements are included in the law.



Implementation of the Binding and Non-binding Instruments

Import/Export Controls: Multilateral Mechanisms

- Guidelines of the NPT Nuclear Exporters' Committee (Zangger Committee) (INFCIRC/209)
- Nuclear Suppliers Group Guidelines (INFCIRC/254)
- PSI



IAEA Legal Support to Member States

Objectives

- Create awareness in Member States of the legally binding and non-binding international instruments in the nuclear field;
- assist Member States to comply with their international obligations and commitments;
- enable Member States to establish national legislative frameworks governing the safe and peaceful uses of nuclear energy;
- transfer relevant knowledge to Member States



IAEA Legal Support to Member States

- Legislative assistance activities are available for all regions concerning all branches of nuclear law
- The "3S" concept recognizes the interface and interrelations between nuclear safety, nuclear security and safeguards as well as liability for nuclear damage
- Member States are advised in the areas of nuclear safety, nuclear security and safeguards in a structured and coordinated manner. By the "3S" approach, not only the domestic legal framework of a given State in the area of nuclear law is enhanced but also a uniform message to Member States on how they should develop their national nuclear laws is conveyed



IAEA Legal Support to Member States

Primary Elements of the Legislative Assistance Programme:

- Interaction with individual States
- Interface between legal and technical issues
- Multi-means approach to transfer knowledge and know-how:
 - workshops,
 - training,
 - assistance in drafting legislation,
 - development of reference material for the assessment and drafting of national nuclear legislation



IAEA Legal Support to Member States

Advisory Missions Relevant to Nuclear Security

Under Nuclear Security Plan for 2006-2009:

- **INSServ**: International Nuclear Security Advisory Service
- **IPPAS**: International Physical Protection Advisory Service
- **ITE**: International Teams of Experts

Other missions:

- **RASSIA**: Radiation Safety and Security Infrastructure Appraisal
- **ISSAS**: IAEA State System of Accounting for and Control of Nuclear Material Advisory Service



IAEA Legal Support to Member States

ITE Missions

- Encourage and inform national policy makers about the importance of adhering to instruments relevant to the enhancement of protection against nuclear terrorism
- Provide information on how to effectively implement States' obligations under those instruments
- The ITE will inform the requesting State of the availability of relevant IAEA advisory services and other assistance relevant to the objectives of the ITE



CONCLUSION

- The legal framework for nuclear security is a broad, comprehensive and coherent body of law with concrete rights and obligations
- Responsibility for nuclear security rest entirely with the States. The more national systems that are in place, the more effective the international system will be
- The Agency provides advice and assistance upon request

