VERTIC is an independent, not-for-profit non-governmental organization. Our mission is to support the development, implementation and effectiveness of international agreements and related regional and national initiatives, with particular attention to issues of monitoring, review, legislation and verification. The National Implementation Measures (NIM) Programme advises States on national implementation of the obligations in: the Biological Weapons Convention, the Chemical Weapons Convention, the international instruments to secure nuclear and other radioactive material and UN Security Council Resolution 1540.

The development of this Guide was made possible through the generous financial support of Foreign Affairs, Trade and Development Canada (Global Partnership Program) and the Foreign and Commonwealth Office of the United Kingdom (Strategic Programme Fund). The views expressed by VERTIC do not necessarily reflect those of these governments or agencies. VERTIC wishes to thank the 1540 Committee Group of Experts for their support in the development of this Guide.

Although every care has been taken to prepare this Guide, VERTIC hereby disclaims any liability or responsibility arising from its use in any way. VERTIC would be grateful for any errors or omissions that are brought to our attention.

Version: February 2014
# TABLE OF CONTENTS

## I. INTRODUCTION ..........................................................4
1. United Nations Security Council Resolution 1540 (UNSCR 1540) .........................................4
2. The 1540 Committee and its Group of Experts ..................................................................5
3. Legislative Assistance .....................................................................................6

## II. BIOLOGICAL WEAPONS AND RELATED MATERIALS ..........8
1. Overview ....................................................................................8

## III. CHEMICAL WEAPONS AND RELATED MATERIALS ........11
1. Overview ...................................................................................11
2. OPCW: National Legislation Implementation Kit for the Chemical Weapons Convention 11

## IV. NUCLEAR WEAPONS / NUCLEAR AND OTHER RADIOACTIVE MATERIAL .................................................................12
1. Overview ...................................................................................12
2. IAEA: Nuclear Security Series ..........................................................13
3. IAEA: Documents on National Implementation ........................................15
4. Indonesia-VERTIC: National Legislation Implementation Kit on Nuclear Security ....17

## V. OTHER RELEVANT INTERNATIONAL INSTRUMENTS ........19
1. Overview ...................................................................................19
2. International Health Regulations (2005) ................................................19
3. Basel Convention ........................................................................20
I. INTRODUCTION


UNSCR 1540 was adopted on 28 April 2004 as a response to the threat to international peace and security caused by the proliferation of weapons of mass destruction, as well as their means of delivery.¹ The resolution was adopted under Chapter VII of the UN Charter: “Action with Respect to Threats to the Peace, Breaches of the Peace, and Acts of Aggression”.

UNSCR 1540 addresses several areas of national law including, for example, criminal law, export-import and transfers control, regulatory systems for dual-use materials and requisite enforcement measures. Each State will decide the type of implementing measures it requires in accordance with its constitutional processes. The scope of measures that a State adopts and enforces to give effect to the resolution will depend on its specific situation with respect to the activities covered by the resolution. However, harmonization of national legal frameworks will be essential for effective implementation of global measures to restrain proliferation of nuclear, chemical and biological weapons and to establish effective national controls over related materials.

Under UNSCR 1540, all States are required to refrain from providing any form of support to non-State actors that attempt to develop, acquire, manufacture, possess, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery. National legislation must also be adopted and enforced to prohibit activities involving the proliferation of such weapons and their means of delivery to non-State actors, in particular for terrorist purposes, as well any attempts to engage in such activities, participate in them as an accomplice, assist or finance them. This may be achieved by amending penal measures to criminalize and punish these activities.

UNSCR 1540 also calls for the establishment of a national legal framework to prevent the proliferation of nuclear, chemical and biological weapons and their means of delivery. This framework must also cover related materials. The resolution specifies that this framework should include the following elements:

- a system to account for and secure such items in production, use, storage or transport;
- effective physical protection measures;
- effective border controls and law enforcement measures; and
- effective national export and trans-shipment controls.

For the purpose of implementing UNSCR 1540, States should refer to the definitions provided by the Security Council, as follows:

- **Related materials**: materials, equipment and technology covered by relevant multilateral treaties and arrangements, or included on national control lists, which could be used for the design, development, production or use of nuclear, chemical and biological weapons and their means of delivery;
- **Means of delivery**: missiles, rockets and other unmanned systems capable of delivering nuclear, chemical, or biological weapons, that are specially designed for such use; and
- **Non-State actor**: individual or entity, not acting under the lawful authority of any State in conducting activities which come within the scope of this resolution.

UNSCR 1540 also identifies certain types of national measures that States Parties to the related treaties must implement to give effect to their obligations under those agreements: the 1968 Treaty on the Non-proliferation of Nuclear Weapons (NPT), the 1972 Biological and Toxin Weapons Convention (BWC) or the 1993 Chemical Weapons Convention (CWC). The resolution stipulates that its provisions do not conflict with or alter the rights and obligations of States Parties to these treaties.

The Security Council reiterated its decisions and the requirements of UNSCR 1540 in Resolutions 1673 (2006), 1810 (2008), 1977 (2011) and 2055 (2012). The mandate of the 1540 Committee, established by UNSCR 1540, and discussed in further detail in the next section, was also extended by Resolution 1977 (2011) until 25 April 2021.

2. The 1540 Committee and its Group of Experts

The committee established pursuant to operative paragraph 4 of UNSCR 1540 is known as the 1540 Committee, and is a subsidiary body of the Security Council. The 1540 Committee has four working groups: Monitoring and National Implementation; Assistance; Transparency and Media Outreach; and Cooperation with International Organizations, including with the Security Council Committees established under Resolutions 1267 (1999) and 1373 (2001) respectively. A Senior Political Affairs Officer of the UN Department of Political Affairs (UNDPA) serves as Secretary of the Committee, while the UN Office for Disarmament Affairs (UNODA) provides substantive and logistical support. The current Group of Experts was established per resolutions 1977 (2011) and 2055 (2012) “to assist the Committee in carrying out its mandate...” Currently, up to nine experts may serve at a given time. The Committee and its experts receive and examine reports to monitor implementation; promote greater awareness of UNSCR 1540, including through outreach and dialogue with UN Member States; and facilitate capacity building and assistance by providing a clearing house function. In the spirit of transparency, information notes regarding outreach events and reports of country visits are posted on the 1540 Committee website.

UN Member States submit National Reports to the 1540 Committee followed as needed by updates known as ‘additional information’ reports. These reports are issued as Security Council documents and posted on the 1540 Committee website. In addition, UN Member States submit voluntary National Implementation Action Plans to the Committee, as encouraged by the Security Council in operative paragraph 8 of UNSCR 1977 (2011).

The 1540 Committee and its experts develop UNSCR 1540 national matrices using the information provided by Member States to various intergovernmental organizations, to the Committee or using information from governmental websites. The approved matrices are available on the 1540 Committee website. The newly revised matrix template has 389 fields covering national activities related to the operative paragraphs of UNSCR 1540. National matrices are used as a reference tool for facilitating technical assistance and the Committee’s constructive dialogue with States on their implementation of the resolution. The matrix can also be used as a checklist for identifying whether gaps exist in national legislative, regulatory

---

or enforcement measures. The 1540 Committee specifically looks at whether States have implemented national measures to cover the measures required under several operative paragraphs in UNSCR 1540, especially paragraphs 2, 3, 6, 8 (b) and 10.

3. Legislative Assistance

UN Member States can request assistance through the 1540 Committee, using a template available online, and sent via a Note Verbale addressed to the Chair of the 1540 Committee. Requestors of assistance can also browse the offers of assistance posted online on the 1540 Committee website from other UN Member States or from various international and regional organizations. The assistance providers can be contacted directly or through the 1540 Committee. The 1540 Committee’s Group of Experts may also provide informal guidance with the assistance process.

Legislative assistance is provided by the International Atomic Energy Agency (IAEA), Organisation for the Prohibition of Chemical Weapons (OPCW), UN Office on Drugs and Crime (UNODC) and other providers, within their respective mandates.

VERTIC can also provide assistance to governments, at no cost, in the development of laws and regulations for national implementation of:

- UNSCR 1540 (2004);
- 1972 Biological Weapons Convention (BWC);
- 1993 Chemical Weapons Convention (CWC);
- certain international instruments to secure nuclear and other radioactive material, including:
  - 1980 Convention on the Physical Protection of Nuclear Material (CPPNM) (and 2005 amendment);
  - 2005 International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT); and
  - 2003 Code of Conduct on the Safety and Security of Radioactive Sources (Code of Conduct) and Guidance on the Import and Export of Radioactive Sources; as well as
- CBRN provisions in other relevant international instruments, including:
  - 2010 Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation (Beijing Convention);

---

8 The template is available at [http://www.un.org/en/sc/1540/assistance/assistance-template.shtml](http://www.un.org/en/sc/1540/assistance/assistance-template.shtml). The communication can be sent to: Secretariat of the 1540 Committee, 730 Third Avenue, TB-08040E, United Nations, New York, NY 10017, United States; Fax: +1 212 963 1300; Email: sc-1540-Committee@un.org.


12 Further information about legislative assistance from the IAEA is available at [http://ola.iaea.org/ola/legislative-assistance.html](http://ola.iaea.org/ola/legislative-assistance.html).


15 Further information about legislative assistance from VERTIC is available at [http://www.vertic.org/pages/homepage/programmes.php#wb_142](http://www.vertic.org/pages/homepage/programmes.php#wb_142) or NIM@vertic.org.
o 1988 Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (as amended by the 2005 Protocol); and

VERTIC also complements the 1540 Committee’s matrices, discussed in the previous section, with legislation surveys related to national implementation of the BWC, CWC and certain international instruments to secure nuclear and other radioactive material. The following types of legislation are reviewed in order to prepare the surveys: penal and criminal procedure codes, laws on counterterrorism and organised crime, laws to prevent proliferation of weapons of mass destruction, customs codes, licensing laws, import/export and trade laws (including trade in strategic or dual-use goods legislation), money laundering laws, laws on mutual criminal assistance and extradition, laws on the management and transport of hazardous or dangerous substances, aircraft and ship/airport and port security laws, rail security laws, and laws on surveillance and intelligence gathering. VERTIC surveys are available on request to State officials.


While the effective implementation of UNSCR 1540 requires a series of legislative and regulatory measures and enforcement programmes, this Legislative Guide to National Implementation of UN Security Council Resolution 1540 (2004) (Guide) specifically addresses the main obligations of UNSCR 1540 with regard to the required legislative actions to be taken by UN Member States.

The Security Council adopted Resolution 1977 on 20 April 2011 in which it, inter alia, requested the 1540 Committee, with its Group of Experts, to:

…identify effective practices, templates and guidance, with a view to develop a compilation, as well as to consider preparing a technical reference guide about resolution 1540 (2004), to be used by States on a voluntary basis in implementing resolution 1540 (2004), and in that regard, encourages the 1540 Committee, at its discretion, to draw also on relevant expertise, including, civil society and the private sector… (operative paragraph 12)

Toward this objective, VERTIC developed this Guide as guidance for States when they are engaged in the process of implementing UNSCR 1540. It identifies and organizes in one document the model laws, implementation kits and handbooks that have already been developed by the IAEA, OPCW, VERTIC and other legislative assistance providers to assist States in implementing the international legal instruments to prohibit and prevent the proliferation of nuclear, chemical and biological weapons and related materials.

This Guide is divided into four parts:

• Part II covers biological weapons and materials;
• Part III covers chemical weapons and materials;
• Part IV covers nuclear weapons / nuclear and other radioactive material; and
• Part V briefly discusses other international instruments relevant to UNSCR 1540.

A ‘Quick Reference’ at the end of each Part sets forth a list of the materials discussed in that Part and web links where available.
II. BIOLOGICAL WEAPONS AND RELATED MATERIALS

1. Overview

The Biological Weapons Convention prohibits the development, production, stockpiling, acquisition or retention of biological weapons in a State Party’s territory and anywhere under its jurisdiction or control. States Parties have agreed that the prohibition of the use of biological weapons – originating in the 1925 Protocol for the Prohibition of the Use of Asphyxiating, Poisonous or other Gases, and of Bacteriological Methods of Warfare (1925 Geneva Protocol) – also falls under the scope of the BWC. Under the BWC, almost any disease-causing micro-organism (such as bacteria, viruses, fungi, prions or rickettsia) or toxin (a non-living, poisonous substance derived from animals, plants or micro-organisms, or similar synthetically produced substances) can potentially be used as a biological or toxin weapon, but only if there is criminal or terrorist intent behind such use. This must be addressed when drafting, implementing and enforcing national measures to meet the obligations of the BWC and UNSCR 1540.

UNSCR 1540 and the BWC are complementary to one another: a State’s effective implementation of the BWC goes a long way toward ensuring that the obligations mandated by UNSCR 1540 are met. This is true whether the implementing State is party to the BWC or not and, indeed, there is nothing preventing a non-State Party from implementing the BWC into its national law and adhering to the Convention.

In particular, Article III requires all States Parties to the BWC to refrain from transferring biological weapons to anyone and from assisting, encouraging or inducing anyone to manufacture or acquire them. Article IV of the BWC obliges States Parties, in accordance with their constitutional processes, to take any necessary measures to prohibit and prevent the development, production, stockpiling, acquisition or retention of biological weapons in its territory and anywhere under its jurisdiction or control. States must also now adopt measures for the safety and security of biological agents and toxins – also known as ‘biosafety’ and ‘biosecurity’ measures – to fulfil their obligations to give effect to the BWC.

The Second Review Conference of the BWC (1986) decided by consensus that Confidence-building Measures (CBMs) should be introduced “in order to prevent or reduce the occurrence of ambiguities, doubts and suspicions and in order to improve international cooperation in the field of peaceful biological activities...” BWC States Parties are now politically obligated to submit CBMs each year, the relevant modalities and forms for which were most recently revised at the Seventh Review Conference in 2011. Form E –

---

16 ‘Laboratory biosafety’ is the term used to describe the containment principles, technologies and practices that are implemented to prevent unintentional exposure to pathogens and toxins, or their accidental release. ‘Laboratory biosecurity’ refers to institutional and personal security measures designed to prevent the loss, theft, misuse, diversion or intentional release of pathogens and toxins. Biosafety Laboratory Manual, Third Edition (WHO, Geneva, 2004), p. 47.

17 The final report of the 2008 Meeting of the States Parties to the BWC emphasized the States Parties’ non-binding understanding of biosafety and biosecurity: “Having considered national, regional and international measures to improve biosafety and biosecurity, and recognising the need to take into account respective national circumstances and legal and regulatory processes, States Parties noted their common understanding that in the context of the Convention, biosafety refers to principles, technologies, practices and measures implemented to prevent the accidental release of, or unintentional exposure to, biological agents and toxins, and biosecurity refers to the protection, control and accountability measures implemented to prevent the loss, theft, misuse, diversion or intentional release of biological agents and toxins and related resources as well as unauthorized access to, retention or transfer of such material”. Available at www.unog/BWC.

18 With regard to the fields pertaining to accounting/securing/physically protecting biological weapons, including related materials, in the new revised matrix template (discussed in Part I, Section 2 of this
Declaration of legislation, regulations and other measures – obliges States Parties to report on legislation, regulations and other measures in the following areas:

- the development, production stockpiling, acquisition or retention of microbial or other biological agents, or toxins, weapons, equipment and means of delivery specified in Article I of the BWC;
- exports of micro-organisms and toxins;
- imports of micro-organisms and toxins; and
- biosafety and biosecurity.

Of note, the Seventh Review Conference in 2011 called upon States Parties to strengthen the implementation of the BWC and “to adopt, in accordance with their constitutional processes, legislative, administrative, judicial and other measures, including penal legislation” as well as measures to “ensure the safety and security of microbial or other biological agents or toxins in laboratories, facilities, and during transportation, to prevent unauthorized access to and removal of such agents or toxins”.

Legislative drafters may find the following documents (Sections 2 to 4) useful for implementing not only the BWC but also the biological weapons and materials-related provisions of UNSCR 1540.


The Sample Act was developed by VERTIC to assist countries in drafting legislation to implement the BWC and the biological weapons-related provisions of UNSCR 1540. It is a tool which legislative drafters may freely use, while taking into consideration the national legal framework, level of biotechnological development and other domestic circumstances.

The Sample Act is divided into five parts. Part A contains a brief introduction and defines terms that have a particular meaning in the legislation. Part B ensures that non-state actors who misuse biological agents and toxins to harm or kill are committing an offence punishable by law. Part C establishes a robust and comprehensive system, including biosecurity measures, for the prevention of biological and toxin weapons proliferation. Part D provides for enforcement and oversight through two proposed agencies. Finally, Part E enables a National Authority or appropriate minister to issue any regulations necessary under the legislation.

The Sample Act is available in Arabic, Azeri, Bahasa Indonesian, English, French, Georgian, Portuguese, Russian and Spanish on the VERTIC website. Civil law versions are also available in French and Spanish.

3. ICRC-VERTIC: Model Law – The Biological and Toxin Weapons Crimes Act

The ICRC-VERTIC Model Law is intended for States with a common law legal tradition, although States with different legal traditions may find some of the provisions relevant. It is also intended for States with little or no biotechnology industry. It does not formulate internal regulations (see Section 4 below) nor does it cover separate administrative measures that arise from implementation of the BWC and UNSCR 1540.

Guide), information required in that section may also be available in the State’s CBMs report, if submitted to the BWC Implementation Support.

The main emphasis in the Model Law is placed on the prohibition, backed up by penal sanctions, of the weapons and acts defined in the BWC and the 1925 Geneva Protocol. Part II of the Model Law spells out criminal offences including acts committed by State agents, and provides definitions for terms of prohibition mentioned in the BWC and 1925 Geneva Protocol. Part II also sets up an optional licensing scheme.

Part III of the Model Law provides for measures of domestic enforcement through the powers of inspectors. Part IV provides for an information collection system for reporting internally, to other States Party to the BWC and to the 1540 Committee.

Parts V and VI provide for regulation-making powers and contain the procedural elements normally found in similar common law legislation.

The ICRC-VERTIC Model Law is available in Arabic, English and Spanish on the VERTIC website.20


VERTIC developed the Regulatory Guidelines as guidance for States when they are engaged in the process of preparing any regulatory and administrative measures that may be necessary to supplement their primary legislation for national implementation of the BWC, as well as the biological weapons-related provisions of UNSCR 1540. They are not a set of model regulations, but rather suggestions, tips and links to examples of proven practice, which States are free to review and utilize, taking into account their own legal framework and traditions, level of biotechnological development and other national circumstances.

Part I of the Regulatory Guidelines focuses on biosecurity, corresponding to Part C of VERTIC’s Sample Act (see Section 2 above). Part II of the Regulatory Guidelines focuses on enforcement, corresponding to Part D of VERTIC’s Sample Act.

The Regulatory Guidelines are available in Arabic, English, French, Portuguese, Russian and Spanish on the VERTIC website.21

<table>
<thead>
<tr>
<th>Quick Reference 1: Implementation of the biological weapons and materials-related obligations of UNSCR 1540 (and of the BWC) (all materials are available on the VERTIC website22)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• VERTIC: Sample Act for National Implementation of the 1972 Biological and Toxin Weapons Convention and Related Requirements of UN Security Council Resolution 1540 (available in Arabic, Azeri, Bahasa Indonesian, English, French, Georgian, Portuguese, Russian and Spanish)</td>
</tr>
<tr>
<td>• ICRC-VERTIC: Model Law – The Biological and Toxin Weapons Crimes Act (available in Arabic, English and Spanish)</td>
</tr>
<tr>
<td>• VERTIC: Regulatory Guidelines for National Implementation of the 1972 Biological and Toxin Weapons Convention and Related Requirements of UN Security Council Resolution 1540 (available in Arabic, English, French, Portuguese, Russian, Spanish)</td>
</tr>
</tbody>
</table>

---

III. CHEMICAL WEAPONS AND RELATED MATERIALS

1. Overview

UNSCR 1540 and the Chemical Weapons Convention are complementary to one another: a State’s effective implementation of the CWC goes a long way toward ensuring that the obligations mandated by UNSCR 1540 are met. This is true whether the implementing State is party to the CWC or not and, indeed, there is nothing preventing a non-State Party from implementing the CWC into its national law and adhering to the Convention.

In particular, Article VI requires States Parties to the CWC to adopt the necessary measures to ensure that toxic chemicals and their precursors are only developed, produced, otherwise acquired, retained, transferred, or used for peaceful purposes within their territory or anywhere under their jurisdiction or control. States Parties must accordingly regulate and oversee activities involving the chemicals listed in Schedules 1, 2 and 3 of the Convention’s Annex on Chemicals.

Article VII of the CWC requires all States Parties to adopt the necessary measures to fulfil their obligations under the Convention, especially appropriate penal legislation. They must then inform the OPCW of the measures they have taken (an Article VII (5) submission).

Legislative drafters may find the following document useful for implementing not only the CWC but also the chemical weapons and materials-related obligations of UNSCR 1540.

2. OPCW: National Legislation Implementation Kit for the Chemical Weapons Convention

The OPCW has published a National Legislation Implementation Kit for the Chemical Weapons Convention. It includes illustrative provisions for:

- definitions;
- National Authority;
- control regime for scheduled chemicals and discrete organic chemicals;
- international inspections;
- forfeiture, confidentiality and legal assistance;
- penal provisions; and
- final provisions.

Quick Reference 2: Implementation of the chemical weapons and materials-related obligations of UNSCR 1540 (and of the CWC)

- OPCW: National Legislation Implementation Kit for the Chemical Weapons Convention (available on the OPCW website in Arabic, English, French, Russian and Spanish)

---


IV. NUCLEAR WEAPONS / NUCLEAR AND OTHER RADIOACTIVE MATERIAL

1. Overview

Prohibiting and preventing the proliferation of nuclear weapons and related materials under UNSCR 1540 is arguably a more complex undertaking than dealing with their biological and chemical counterparts, discussed in Parts II and III of this Guide.25

First, a number of international instruments specifically addressing nuclear weapons and related materials need to be considered. They include:

- the Nuclear Non-proliferation Treaty (NPT) and related safeguards agreements: Comprehensive Safeguards Agreement (INFCIRC/153 (Corrected)); Additional Protocol (INFCIRC/540 (Corrected)); INFCIRC/66/Rev. 2;
- the Convention on the Physical Protection of Nuclear Material (CPPNM) (and 2005 amendment);
- the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT); and
- the Statute of the International Atomic Energy Agency (IAEA).

Second, UNSCR 1540 does not explicitly cover so-called radiation dispersal devices (RDDs or ‘dirty bombs’), which utilize radioactive material beyond nuclear material as defined in the main non-proliferation instruments. However, the following documents provide guidance that can contribute to the security objectives set forth in the resolution:

- Code of Conduct on the Safety and Security of Radioactive Sources (Code of Conduct);
- Supplementary Guidance on the Import and Export of Radioactive Sources; and

Third, there are other international instruments that have provisions relevant to the non-proliferation of nuclear weapons and material,26 and therefore to the implementation of UNSCR 1540, including:

- Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation (Beijing Convention);
- Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (as amended by the 2005 Protocol); and

25 A table analyzing the scope and application of the instruments discussed in this Part is included as Annex I of the VERTIC report Illicit Trafficking of Nuclear and other Radioactive Material – The Legislative Response (available at http://www.vertic.org/media/assets/Publications/ITR_WEB.pdf).

26 These international instruments use the term ‘BCN weapon’ to refer to a biological weapon, chemical weapon or nuclear weapon. Implementation of these instruments in national law would also strengthen national implementation of the Biological and Chemical Weapons Conventions, discussed in Parts II and III of this Guide. The National Legislation Implementation Kit on Nuclear Security, discussed in Section 4 of this Part, includes a Model Law with provisions for national implementation of these instruments.
Legislative drafters may find the following documents (Sections 2 to 4) useful, not only for implementation of the instruments listed above, but also for the nuclear weapons and materials-related provisions of UNSCR 1540.

2. IAEA: Nuclear Security Series

2.1. Introduction

The IAEA continues to expand its Nuclear Security Series to address “Nuclear security issues relating to the prevention and detection of, and response to, theft, sabotage, unauthorized access and illegal transfer or other malicious acts involving nuclear material and other radioactive substances and their associated facilities”. Many of these documents (20 have been published so far) have relevance to the implementation of UNSCR 1540, including *Combating Illicit Trafficking in Nuclear and other Radioactive Material* (Nuclear Security Series No. 6) (2007), *Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities* (Nuclear Security Series No. 13) (2011) and *Objective and Essential Elements of a State’s Nuclear Security Regime* (Nuclear Security Series No. 20) (2013).

2.2. Combating Illicit Trafficking in Nuclear and other Radioactive Material (Nuclear Security Series No. 6)

The IAEA published *Combating Illicit Trafficking in Nuclear and other Radioactive Material* in 2007. The Agency introduces the publication by noting that “…illicit trafficking and theft of nuclear material can lead to nuclear proliferation and the possible construction of improvised nuclear devices or radiological dispersal and exposure devices…” and that, therefore, “…measures to detect and respond to such acts are essential components of a comprehensive nuclear security programme”.

Drafters of national legislation may find the third chapter particularly useful as it describes in detail the various international legal instruments which are relevant to dealing with criminal or unauthorized acts involving nuclear and other radioactive material. The publication also makes two important points about the role of national legislation: first, “…the provisions of these instruments should be reflected in the national laws and regulations of all States” and, second, “…harmonization of national laws and regulations could contribute to the detection of criminal or unauthorized acts by reducing delay and confusion in the handling of incidents of a cross-boundary character, and by enhancing the coordination of needed response actions”.


Though UNSCR 1540 does not explicitly cover so-called radiation dispersal devices (RDDs or ‘dirty bombs’), which utilize radioactive material beyond nuclear material as defined in the main non-proliferation instruments, legislative drafters may nevertheless find the following publications in the Nuclear Security Series useful: *Security of Radioactive Sources*, IAEA Nuclear Security Series No. 11 (IAEA, Vienna, 2009); *Nuclear security recommendations on radioactive material and associated facilities*, IAEA Nuclear Security Series No. 14 (IAEA, Vienna, 2011). *Combating Illicit Trafficking in Nuclear and other Radioactive Material*, IAEA Nuclear Security Series No. 6 (IAEA, Vienna, 2007), p. 1.


29 Ibid. at pp. 9-10.
Material and Nuclear Facilities (Recommendations) dates its origins to 1975. The fifth and latest revision was released in 2011 as Nuclear Security Series No. 13.\textsuperscript{32} Though the Recommendations are not legally-binding, they “receive a legal status in some situations by virtue of their adoption in state regulatory frameworks and by reference within other regimes, such as in the Nuclear Suppliers Guidelines”.\textsuperscript{33} They do not apply to other radioactive material or to activities beyond those defined as ‘nuclear material and facilities’.

The Recommendations set out a series of measures that should be enacted in national law relating to the physical protection of nuclear material and facilities. The basis for these measures is the suggested fundamental principle that: “the State is responsible for establishing and maintaining a legislative and regulatory framework to govern physical protection”.\textsuperscript{34}

As recommended by the IAEA, the framework should establish “applicable physical protection requirements and include a system of evaluation and licensing or other procedures to grant authorization”.\textsuperscript{35} A national law should also, in the view of the IAEA, provide for a “system of inspection of nuclear facilities and transport to verify compliance with applicable requirements and conditions of the license or other authorizing document, and to establish a means to enforce applicable requirements and conditions, including effective sanctions”. On this latter point, the recommendations suggest that “sanctions against the unauthorized removal and against sabotage should be part of the State’s legislative or regulatory system”.\textsuperscript{36}

2.4. Objective and Essential Elements of a State’s Nuclear Security Regime (Nuclear Security Series No. 20)

The IAEA published Objective and Essential Elements of a State’s Nuclear Security Regime in 2013.\textsuperscript{37} It is now the IAEA’s first-tier publication in the Nuclear Security Series, which also includes recommendations, implementing guides and technical guidance. The publication has the purpose to “… assist Member States in enhancing nuclear security by providing national policy makers, legislative bodies, competent authorities, institutions, and individuals involved in the establishment, implementation, maintenance or sustainability of a State’s nuclear security regime with the objective and essential elements of the nuclear security regime”.\textsuperscript{38}

Objective and Essential Elements of a State’s Nuclear Security Regime confirms that the “essential elements” for nuclear security include:

- State responsibility;
- identification and definition of nuclear security responsibilities;
- legislative and regulatory framework;
- international transport of nuclear material and other radioactive material;
- offences and penalties including criminalization;
- international co-operation and assistance;
- identification and assessment of nuclear security threats;
- identification and assessment of targets and potential consequences;

\textsuperscript{33} Prevention of the inadvertent movement and illicit trafficking of radioactive materials (IAEA TECDOC-1311) (IAEA, Vienna, 2002), p. 4.
\textsuperscript{35} Ibid. at pp. 7-8.
\textsuperscript{36} Ibid. at p. 9.
\textsuperscript{37} Available at \url{http://www-pub.iaea.org/MTCD/Publications/PDF/Pub1590_web.pdf}.
• use of risk informed approaches;
• detection of nuclear security events;
• planning for, preparedness for, and response to, a nuclear security event; and
• sustaining a nuclear security regime. 39

The documents discussed in Sections 3 and 4 below give States more specific guidance on implementing a nuclear security regime at the national level, through a legislative and regulatory framework (Essential Element 3) and the criminalization of offences involving nuclear and other radioactive material and nuclear facilities (Essential Element 5).

3. IAEA: Documents on National Implementation

3.1. The International Legal Framework for Nuclear Security (IAEA International Law Series No. 4)

The IAEA published The International Legal Framework for Nuclear Security, part of the Agency’s International Law Series, in 2011. 40 The objective of the publication is to “…bring together the legally binding primary international instruments and the internationally accepted non-binding instruments that constitute the international legal framework for nuclear security”. 41

Section 2 of the publication provides the legislative history of a number of legally and non-legally binding nuclear security instruments, operating under the auspices of the IAEA, the United Nations (including the Security Council) and the International Maritime Organization. Section 3 gives an overview of the most salient features of the instruments, including their objectives and scope, as well as obligations of States Parties to the legally binding instruments or recommendations to States for the non-legally binding instruments. Section 4 describes the IAEA’s mandate and functions pursuant to these instruments.


In addition to giving an overview of the elements of nuclear law (Part I), the IAEA’s Handbook on Nuclear Law (2003) 42 provides detailed information on how to implement legislative and regulatory measures for: radiation protection (Part II), nuclear and radiation safety (Part III), nuclear liability and coverage (Part IV) and non-proliferation and physical protection (Part V). Legislative drafters may find Part V on ‘Non-proliferation and physical protection’ particularly useful in their efforts to implement UNSCR 1540. Part V includes chapters on safeguards, export and import controls and physical protection (Chapters 12 to 14).

The primary objective of ‘safeguards’ (Comprehensive Safeguards Agreement (INFCIRC/153 (Corrected) and Additional Protocol (INFCIRC/540 (Corrected)) is to “…help ensure that nuclear material is not diverted for use in the production of nuclear weapons or other nuclear explosive devices, safeguards being the primary means of verifying compliance by States with undertakings not to use safeguarded items for unauthorized purposes”. 43 ‘Export and import controls’ have two objectives: “…to ensure that transfers of nuclear material, equipment and technology (whether into or out of the State) take place in a secure, safe and environmentally responsible manner” and “…to ensure that such transfers do not directly or

---

39 Ibid. at pp. 4-10.
indirectly assist any non-nuclear-weapon State or any unauthorized person in developing or acquiring nuclear explosive devices or using nuclear material for unauthorized purposes.\textsuperscript{44} And, finally, the primary objective of ‘physical protection’ is to “…prevent the illegal or unauthorized acquisition of nuclear material and interference with the authorized uses of nuclear material and facilities through acts such as theft, diversion, threats and sabotage.”\textsuperscript{45}

National legislation which is developed toward the objectives in the three areas above would also go a long way towards implementation of the nuclear weapons and materials-related obligations of UNSCR 1540, which requires measures to account for, secure, physically protect and control transfers of nuclear material in order to prevent non-state actors from developing nuclear weapons.


The IAEA published the Handbook on Nuclear Law—Implementing Legislation in 2010.\textsuperscript{46} Though mostly structured along the lines of the Handbook on Nuclear Law (2003) – discussed in Section 3.2 above – the 2010 version has a revised Chapter 1 which proposes initial provisions to be included in a comprehensive nuclear law, and expands the scope of Chapter 14 beyond physical protection to include nuclear security and illicit trafficking. The 2010 version also provides illustrative model provisions. These are “…an example of language developed by persons experienced in nuclear law and technology that reflects relevant international legal instruments and IAEA guidance documents in a clear, consistent and succinct manner. It is expected that this text, even if used as a basis for further drafting by a State, will be adjusted to reflect domestic legislative practice and the needs of the particular State.”\textsuperscript{47}

Chapters 12 and 13 in the Handbook on Nuclear Law (2010) – like the 2003 version – cover safeguards and export and import controls. Chapter 14 has been expanded to cover nuclear security, physical protection and illicit trafficking.

The IAEA suggests that legislation to address the areas in Chapter 14 should include:

(a) a physical protection regime for nuclear and other radioactive material and related facilities;
(b) provisions regarding authorization (licensing), inspection and enforcement measures relevant to nuclear material and nuclear facilities (and other radioactive material);
(c) measures for the prevention and detection of, and response to, incidents of theft or other unauthorized acquisition of or illicit trafficking in nuclear and other radioactive material or sabotage of related facilities;
(d) criminal offences for violations of applicable laws and regulations, with stringent penalties, particularly for malicious acts; and
(e) national arrangements necessary to implement international cooperation in protecting radioactive material, recovering stolen or lost material and dealing with offenders.\textsuperscript{48}

The Handbook on Nuclear Law (2010) proposes a series of model provisions to cover the basic elements in (a) to (e) above in national legislation.

In addition, the Handbook proposes a series of model provisions to implement the criminal offences in the CPPNM (and the amendment thereto), the International Convention for the Suppression of Terrorist Bombings and ICSANT. These provisions were jointly developed by

\textsuperscript{44} Ibid. at pp. 138-9.
\textsuperscript{45} Ibid. at p. 148.
\textsuperscript{46} Available at http://www-pub.iaea.org/MTCD/publications/PDF/Pub1456_web.pdf.
\textsuperscript{47} Handbook on Nuclear Law – Implementing Legislation, Carlton Stoiber, Abdelmadjid Cherf, Wolfram Tonhauser, Maria De Lourdes Vez Carmona (IAEA, Vienna, 2010), p. 3.
\textsuperscript{48} Ibid. at p. 135.
the IAEA and the Terrorism Prevention Branch of the United Nations Office on Drugs and Crime.

Effective implementation of the objectives in Chapters 12 to 14 of the *Handbook on Nuclear Law* (2010) – through robust legislative measures – would go a long way toward ensuring that the obligations mandated by UNSCR 1540 are met. The resolution requires States to implement measures to account for, secure, physically protect and control transfers of nuclear material in order to prevent non-state actors from developing nuclear weapons.

4. Indonesia-VERTIC: National Legislation Implementation Kit on Nuclear Security

At the request of the Indonesian government, VERTIC developed the *National Legislation Implementation Kit on Nuclear Security* (Kit) further to a commitment made by Indonesia to the second Nuclear Security Summit (NSS II), which took place during 26-27 March 2012 in Seoul, Republic of Korea. Indonesia presented the Kit as its gift to the third Nuclear Security Summit (NSS III) in The Hague during 24-25 March 2014.

The Kit has two objectives:

- to help States develop comprehensive national legislation on nuclear security, in accordance with their own respective legal cultures and internal legal processes; and
- to provide States with references to a wide array of consolidated elements and provisions contained in relevant international legal instruments and guidance documents that together establish the global framework for nuclear security.

The Kit includes a Model Law (Part III) and a useful description of the process for developing nuclear security legislation (Part IV). The Model Law proposes legislative provisions to implement a number of international instruments to help States strengthen and complement their existing legislative frameworks for nuclear security, including:

- 1980 Convention on the Physical Protection of Nuclear Material as amended by the 2005 Amendment to the Convention on the Physical Protection of Nuclear Material (CPPNM/A);
- 2005 International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT);
- 2003 Code of Conduct on the Safety and Security of Radioactive Sources (Code of Conduct) and 2012 Guidance on the Import and Export of Radioactive Sources (Guidance);
- 2010 Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation (Beijing Convention);

Duplication of national implementation obligations among the instruments above, especially in the areas of preparatory offences, jurisdiction, criminal proceedings and international co-operation, has been harmonized in the Model Law.

Effective implementation of the Model Law in the Kit would go a long way toward ensuring that the obligations mandated by UNSCR 1540 are met, particularly in the areas of national regulation of nuclear security; physical protection and security of nuclear and other
radioactive material and nuclear facilities; transport, import, export and transit controls; criminalization of offences related to nuclear and other radioactive material and nuclear facilities; and criminal proceedings and international co-operation.

The Kit is available on the VERTIC website in Arabic, English, French, Russian and Spanish.49

Quick Reference 3: Implementation of the nuclear weapons and materials-related obligations of UNSCR 1540 (and of certain international instruments to secure nuclear and other radioactive material)

- IAEA: Combating Illicit Trafficking in Nuclear and other Radioactive Material (Nuclear Security Series No. 6)(available on the IAEA website50)
- IAEA: Objective and Essential Elements of a State's Nuclear Security Regime (Nuclear Security Series No. 20)(available on the IAEA website52)
- IAEA: The International Legal Framework for Nuclear Security (International Law Series No. 4)(available on the IAEA website53)
- IAEA: Handbook on Nuclear Law (2003)(available on the IAEA website54)
- Indonesia- VERTIC: National Legislation Implementation Kit on Nuclear Security (available on the VERTIC website56)

---

V. OTHER RELEVANT INTERNATIONAL INSTRUMENTS

1. Overview

There are two other international instruments which may be of some relevance to States when they are implementing UNSCR 1540. The first is the International Health Regulations (IHR),\(^\text{57}\) which were revised and then adopted by the Fifty-eight World Health Assembly on 23 May 2005. They entered into force on 15 June 2007. The other is the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention),\(^\text{58}\) which was adopted on 22 March 1989 and entered into force on 5 May 1992.

2. International Health Regulations (2005)

The scope and purpose of the IHR are “to prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade”.\(^\text{59}\) To fulfill this purpose, the IHR introduce new ways of managing public and global health risk, namely:

- their scope is not limited to any specific disease or manner of transmission, but cover “illness or medical condition, irrespective of origin or source, that presents or could present significant harm to humans”;
- State Parties are obliged to develop certain minimum core public health capacities;
- States Parties are obliged to notify the World Health Organization (WHO) of events that may constitute a public health emergency of international concern according to defined criteria;
- there are provisions authorizing WHO to take into consideration unofficial reports of public health events and to obtain verification from States Parties concerning such events;
- there are procedures for the determination by the Director-General of a “public health emergency of international concern” and the issuance of corresponding temporary recommendations, after taking into account the views of an Emergency Committee;
- the human rights of persons and travellers are protected; and
- National IHR Focal Points and WHO IHR Contact Points must be established for urgent communications between States Parties and WHO.\(^\text{60}\)

Notably, the IHR cover public health risks of potential international concern that may be biological, chemical or radionuclear in origin or source, or transmitted by the environment through radionuclear releases, chemical spills or other contamination.\(^\text{61}\) The IHR are, therefore, relevant to national implementation of UNSCR 1540 as they address how, as a public health matter, States can respond to incidents potentially involving nuclear, biological or chemical weapons or materials, and how to reflect this response in national legislation.

As with the international legal instruments discussed in Parts II, III and IV of this Guide, the IHR must be implemented in national legislation in order for them to be effective. Toward

---


\(^\text{60}\) Ibid. at pp. 1-2.

this objective, WHO published a series of documents in January 2009 to assist States Parties in this process:

- *International Health Regulations (2005) – A brief introduction to implementation in national legislation*[^62]

States should contact ihrinfo@who.int for more information about national implementation of the IHR.

### 3. Basel Convention

The Basel Convention has the objective to “protect human health and the environment against the adverse effects of hazardous wastes”.[^65] Its three principal aims, in line with this objective, are:

- the reduction of hazardous waste generation and the promotion of environmentally sound management of hazardous wastes, wherever the place of disposal;
- the restriction of transboundary movements of hazardous wastes except where it is perceived to be in accordance with the principles of environmentally sound management; and
- a regulatory system applying to cases where transboundary movements are permissible.[^66]

The Basel Convention may have some relevance to national implementation of UNSCR 1540 as it addresses how States Parties can control transfers of, for example, infectious and toxic waste which could be a proliferation concern.

‘Hazardous waste’ is defined in Article 1(1)(a) of the Basel Convention to include waste in Annex I, such as:

- clinical wastes from medical care in hospitals, medical centers and clinics;
- wastes from the production, formulation and use of biocides and phytopharmaceuticals; and
- waste chemical substances arising from research and development or teaching activities which are not identified and/or are new and whose effects on man and/or the environment are not known.

According to Article 1(1)(a), this waste must also have the characteristics listed in Annex III such as being poisonous, infectious, toxic or ecotoxic. Wastes that are not listed in Annex I but which are included in State Party legislation in relation to export, import or transit are covered under Article 1(1)(b). Notably, radioactive waste subject to other international instruments for radioactive material is excluded from the Basel Convention under Article 1(3).

[^64]: Available at [http://www.who.int/ihr/Toolkit_Legislative_Implementation.pdf](http://www.who.int/ihr/Toolkit_Legislative_Implementation.pdf).
[^66]: Ibid.
As with the international legal instruments discussed in Parts II, III and IV of this Guide, as well as the IHR in Section 2 above, the Basel Convention must be implemented in national legislation in order for its provisions to be effective. Toward this objective, Model National Legislation was developed by the Legal Working Group and approved for use in decisions by the Conference of the States Parties. To complement the Model National Legislation, a Checklist for the Legislator was prepared by the Secretariat of the Basel Convention, in cooperation with the Committee for Administering the Mechanism for Promoting Implementation and Compliance.

States should contact the Basel Convention Secretariat for more information about national implementation of the Convention.

Quick Reference 4: Implementation of other international instruments with some relevance to UNSCR 1540 (IHR, Basel Convention)

- IHR:
  - WHO: International Health Regulations (2005) – A brief introduction to implementation in national legislation

- Basel Convention:
  - Model National Legislation
  - Checklist for the Legislator

---

67 See Article 4(4) of the Basel Convention: “Each Party shall take appropriate legal, administrative and other measures to implement and enforce the provisions of this Convention, including measures to prevent and punish conduct in contravention of the Convention.”


70 Secretariat of the Basel Convention, 11-13, Chemin des Anémones - 1219 Châtelaine, Switzerland; Tel.: +41 (0)22 917 8218; Fax: +41 (0)22 917 8098

71 Available at [http://www.who.int/ihr/Intro_legislative_implementation.pdf](http://www.who.int/ihr/Intro_legislative_implementation.pdf).


73 Available at [http://www.who.int/ihr/Toolkit_Legislative_Implementation.pdf](http://www.who.int/ihr/Toolkit_Legislative_Implementation.pdf).